Department of Public Health
Division of Health Protection
Office of EMS and Trauma

Emergency Medical Services
Prehospital Clinical Operating Guidelines

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Georgia Department of Public Health

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Administrative

General Information

Purpose

The purpose of this document is to provide 1) guidelines regarding permissible and appropriate emergency medical services procedures and treatment modalities which may be rendered by medics to a patient not in the hospital, and 2) communication protocols regarding which medical situations require direct voice communication between medics and a physician (or his/her designee) prior to those medics rendering specified emergency medical services procedures to a patient not in a hospital.

This document is divided into basic general guidelines, pediatric and adult clinical guidelines (medical and trauma), information regarding medications commonly administered by EMS, and important resource documents.

Recognizing the wide variety in Georgia of EMS medical direction, call volume, resources for training and quality assurance, the many different levels of EMS licensure, and the importance of providing pre-hospital care that is consistent with national standards and evidence based medicine, these documents reflect the best effort of the Guidelines Revision Group to provide the most important basic information. There is liberal use of "Contact Medical Control" in the guidelines. The intention is to allow the Medical Directors of EMS Services to adjust the guidelines to local conditions and needs.

Professional Judgment

Since each medical emergency must be dealt with on an individual basis and appropriate care determined accordingly, professional judgment is mandatory in determining treatment modalities within the parameters of these guidelines.

Authority

The authority for implementing these guidelines for care of pre-hospital patients is found in state law OCGA 31-11-60.1 (b) and (c), OCGA 31-11-50 (b), and the Rules of the Department of Public Health Chapter 511-9-2.

It is the responsibility of each medic to be familiar with the laws, rules and regulations, and guidelines and adhere to them. Even an order by a physician does not justify procedures not in accordance with laws, rules and regulations.

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Legend

The following chart provides explanations for icons and graphics found throughout the guidelines. An explanation of abbreviations utilized in specific protocols can be found in the resources section of this document.

	Emphasizes important points and reminders within guidelines.
ALS	Indicates a procedure that is, in accordance with state and local laws, beyond the scope of authority of the EMT. *All procedures must be performed in accordance with the Georgia Scope of Practice for EMS Personnel.*
STOP **Contact Medical Control or refer to local protocol. Orders may include:**	Indicates the point within each guideline at which contact with medical control should be made. Treatments provided beyond this point should be performed in conjunction with online medical direction or authorized by local agency protocol.
	Emphasizes important points to be included in patient care documentation.
CONTINUED ON NEXT PAGE	Indicates that the guideline or resource provided continues on the next page.

General Guidelines

General Guidelines

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Communications

When contacting Medical Control and receiving facilities, patient reports should be brief and clear. 10 codes and other signals should not be used. A typical patient radio report should include the following:

- Identify Unit by service, number, and level of capability (BLS or ALS)
- Specify en route or on scene (state whether Emergency or Non-Emergency).
- Identify patient age and sex.
- Chief complaint/Mechanism of Injury
- LOC: AVPU
- Vital signs, pertinent clinical findings
- Pertinent patient medications, allergies, past history
- Care and treatment given.
- Patient's response to treatment.
- Request for any orders.
- ETA.

According to local protocol and capability of receiving facility, patient report may be called in as alert or activation of Trauma, Cardiac, or Stroke Team.

The following information **should not** be transmitted over the radio:

- Patient name
- Patient race
- Personal or sensitive patient information (e.g., Social Security number, history of AIDS, etc.)

Control of Patient Care: Physician On Scene

Control of patient care at the scene of an emergency shall be the responsibility of the individual in attendance most appropriately trained and knowledgeable in providing pre-hospital emergency stabilization and transport. When a medic arrives at the scene of a medical emergency, and contact is made with medical control by that medic, a physician/patient relationship is established between the patient and the physician providing medical control. The physician is responsible for the management of the patient and the medic acts as an agent of medical control unless the patient's physician is present. When a physician other than the patient's physician on the scene of a medical emergency properly identifies himself and demonstrates his willingness to assume responsibility for patient management and documents his intervention by signing the patient care report, the medic should place the intervening physician in communication with medical control. If there is disagreement between the intervening physician and the medical control physician, or if the intervening physician refuses to speak with medical control, the medic should continue to take orders from the medical control physician.

Reference: DPH Rule 511-9-2-.07 (6) (i) Control of patient care at the scene.

Intervener Physician

- An intervener physician is a physician on the scene who has no previous connection with the patient. For the Good Samaritan physician to assume control of the patient he/she must: Provide proof of licensure in Georgia.
- Be willing to assume responsibility for the patient at the scene and during patient transportation to the hospital. This includes accompanying the patient during transportation (except multi-casualty situations).
- Perform procedures outside the scope of EMS protocol his or herself.

If the physician is unwilling to comply with these requirements then his assistance should be respectfully declined.

Physician in his/her Office

1. EMS shall perform its duties per protocol.
2. The physician may elect to supervise care provided by EMS.
3. If the physician directs the EMS providers to perform a procedure or administer a medication which is not covered by EMS scope of practice or local protocol, then EMS will advise him/her of such. **The EMS provider will not perform this procedure.** The EMS provider may assist the physician in performing the procedure. If the physician initiates a medication which is to be continued during patient transportation, which is not covered by scope or protocol, then the physician is expected to accompany the patient to the hospital.

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Crime Scene

If you believe a crime has been committed, immediately contact law enforcement. Scene safety is paramount. Protect yourself and other EMS personnel. Once a crime scene is deemed safe by law enforcement, initiate patient contact and medical care.

- Do not touch or move anything at a crime scene unless it is necessary to do so for patient care.
- Have all EMS providers use the same path of entry and exit.
- Do not walk through fluids on the floor.
- Observe and document original location of items moved by crew.
- When removing patient clothing, leave it intact as much as possible.
- Do not cut through clothing holes made by gunshot or stabbing.
- If you remove any items from the scene, such as impaled objects or medication bottles, document your actions and advise investigating officers.
- Do not sacrifice patient care to preserve evidence.
- Do not go through the patient's personal effects.
- If transporting, inform staff at the receiving hospital that this is a "crime scene" patient.
- If the patient is obviously dead, contact Medical Control for directions to withhold resuscitative measures, and do not touch the body.

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Destination Decisions

Hospital Destination of Prehospital Patients

1. When a patient requires initial transportation to a hospital, the patient shall be transported by the ambulance service to the hospital of his or her choice provided:
   (i) The hospital chosen is capable of meeting the patient's immediate needs;
   (ii) The hospital chosen is within a reasonable distance as determined by the medic's assessment in collaboration with medical control so as to not further jeopardize the patient's health or compromise the ability of the EMS system to function in a normal manner;
   (iii) The hospital chosen is within a usual and customary patient transport or referral area as determined by the local medical director; and
   (iv) The patient does not, in the judgment of the medical director or an attending physician, lack sufficient understanding or capacity to make a responsible decision regarding the choice of hospital.
2. If the patient's choice of hospital is not appropriate or if the patient does not, cannot, or will not express a choice, the patient's destination will be determined by pre-established guidelines. If for any reason the pre-established guidelines are unclear or not applicable to the specific case, then medical control shall be consulted for a definitive decision.
3. If the patient continues to insist on being transported to the hospital he or she has chosen, and it is within a reasonable distance as determined by the local medical director, then the patient shall be transported to that hospital after notifying local medical control of the patient's decision.
4. If the patient does not, cannot, or will not express a choice of hospitals, the ambulance service shall transport the patient to the nearest hospital believed capable of meeting the patient's immediate medical needs without regard to other factors, e.g., patient's ability to pay, hospital charges, county or city limits, etc.

Reference: DPH Rule 511-9-2-.07 (6) (k)

Reasonable distance for patient transport by EMS is determined by pre-established guidelines developed by the local EMS medical director.

Reasonable distances can be established based on

1. The patient's emergency
2. Resources at the local and surrounding facilities
3. Geographic location of the various facilities
4. EMS agency resources
5. Obligation to provide emergency services in the assigned ambulance zone
6. Availability of mutual aid
7. The usual and customary hospital destinations of that EMS agency

Documentation

Documentation information becomes the legal record of a patient's history and treatment by pre-hospital personnel. It may be used as defense or prosecution if an EMS provider is charged with medical negligence.

For every patient contact, the following must be documented:

- A clear history of the present illness, including chief complaint, time of onset, associated complaints, pertinent negatives, and mechanism of injury.
- A complete physical exam appropriate for the emergency condition.
- Level of consciousness using the AVPU method.
- At least one complete set of vital signs
- Patients transported shall have at least two complete sets of vital signs documented.
- Vital signs should be repeated after every drug administration.
- For drug administration, note patient weight, dosage of the drug, route of administration, time of administration, and response.
- A complete listing of treatments performed in chronological order.
- For extremity injuries, neurovascular status must be noted before and after immobilization.
- For potential spinal injuries, document motor function before and after immobilization.
- For IV or IO administration, note the size of catheter, placement location, number of attempts, type of IV fluid or medication, and flow rate.
- An ECG lead II strip (at a minimum) shall be documented for all patients placed on the cardiac monitor.
- Any significant rhythm changes should be noted.
- For cardiac arrest, document the initial strip, ending strip, pre and post defibrillation, pacing attempts, or code summary report.
- For intubation, document the centimeter mark at teeth, methods which confirm placement (tube visualized passing through cords, equal breath sounds, chest wall movement, absent gastric sounds, CO2 detector or wave form), size of ET tube, and number of attempts.
- Any Medical Control orders requested whether approved or denied.

Emergency Vehicle Operations

The driver of any authorized emergency vehicle must always drive with due regard for the safety of all persons, including the patient being transported, the transport crew, and the public.

When operating a vehicle as "an authorized emergency vehicle", both the warning lights and audible signal must be in use. Operating a vehicle with only one of these warning devices in use does not satisfy the requirements of OCGA 40-6-6 (below).

There are certain medical conditions that may require the rapid transport of the patient, without the use of an audible warning device due to the patient's condition (e.g. acute MI, pre-eclampsia). In circumstances where lights only are used for transport, the vehicle cannot proceed as "an authorized emergency vehicle" under the conditions set forth in OCGA 40-6-6. The operator of the ambulance using lights only without the use of an audible warning device must proceed in complete compliance with the "Rules of the Road".

Similarly, there may be environmental conditions (e.g. traffic, weather,) in which operating as an emergency vehicle (lights and siren) introduces unreasonable risk and provides minimal opportunity to arrive at the destination sooner.

Local EMS directors, medical directors, and safety officers are urged to develop local policy or protocol to guide medics in safe response and transport.

The Law

OCGA § 40-6-6. Authorized emergency vehicles

(a) The driver of an authorized emergency vehicle or law enforcement vehicle, when responding to an emergency call, when in the pursuit of an actual or suspected violator of the law, or when responding to but not upon returning from a fire alarm, may exercise the privileges set forth in this Code section.

(b) The driver of an authorized emergency vehicle or law enforcement vehicle may:

(1) Park or stand, irrespective of the provisions of this chapter;

(2) Proceed past a red or stop signal or stop sign, but only after slowing down as may be necessary for safe operation;

(3) Exceed the maximum speed limits so long as he or she does not endanger life or property; and

(4) Disregard regulations governing direction of movement or turning in specified directions.

(c) The exceptions granted by this Code section to an authorized emergency vehicle shall apply only when such vehicle is making use of an audible signal and use of a flashing or revolving red light visible under normal atmospheric conditions from a distance of 500 feet to the front of such vehicle, except that a vehicle belonging to a federal, state, or local law enforcement agency and operated as such shall be making use of an audible signal and a flashing or revolving blue light with the same visibility to the front of the vehicle.

(d)The foregoing provisions shall not relieve the driver of an authorized emergency vehicle from the duty to drive with due regard for the safety of all persons.

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Handling Patient's Personal Property

A medic's first responsibility is to treat the patient. Handling a patient's valuables or personal property is secondary to proper pre-hospital emergency care. However, special attention needs to be paid to how a patient's personal property is handled by the medic (when handling it cannot be avoided). In "load and go" situations, patient care and transport are priority.

Proper procedure is determined by location of the patient (at home, incident scene, etc.), whether family members or friends of the patient are present, whether law enforcement personnel is present, and other factors. Every situation cannot be described here, but the following will serve as a guideline.

Patient's personal property could include but not be limited to: glasses, dentures, wallets, money, watches, jewelry, clothing, medication, and keys.

Patient at Home or a Residence

Advise and encourage the patient to leave all unnecessary personal items and valuables at home or with a trusted family member or friend.

Patient medication in most cases will need to go to the hospital either with the patient or carried by a family member or friend. If it is necessary to transport these medications with the patient, they should be treated like any other patient's valuables.

Do not remove a watch, jewelry, or wallet from a patient unless it is necessary to treat the patient, (e.g., start an IV). If it is necessary to do so, tell the patient you are removing the item. Give the item to the patient (if conscious and alert) or to a family member (if present). Document the item(s) and disposition of personal property on the patient care report. If possible, have another medic or law enforcement officer witness what you did with the patient's personal property.

If the patient insists on taking personal items with him, the patient must be alert enough to maintain possession of the items.

If you are concerned about the security of the patient's home or the premises you are leaving, notify law enforcement.

Patient at Incident Scene or Not at Home

If the patient is conscious, encourage the patient to give personal property and valuables to a responsible person of choice. If you have to remove any items from the patient (e.g., watch, jewelry, etc.) to treat the patient, return the items to the patient if possible. Document the details of the situation on the patient care report and have a third party witness this via signature.

If law enforcement presents you with a patient's personal items, request that law enforcement present the items to the patient (if conscious and alert), to the patient's family (if available), or to hospital staff.

If personal items or valuables are handled by first responders or bystanders before they were presented to you, document this with as much detail as possible on the patient care report.

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Handling Patient's Personal Property (Continued)

If a patient is disoriented or unconscious, give the patient's personal items to a family member or law enforcement officer if possible. Document any incident involving valuables on the patient care report and obtain a signature from the person receiving the valuables. If a family member or law enforcement officer is unavailable, transport valuables with the patient.

Taking Responsibility of the Patient's Personal Property

When the medic finds himself in possession of a patient's personal property, carefully document the individual items and what was done with those items. If possible, place the items in a container (such as a zip lock bag or plastic garbage bag) used for the sole purpose of containing the patient's personal property. Make a list of the items placed in each bag, and secure the list in, or on, the bag. Medications should be listed separately. Currency should be listed by amount. Have your partner or a law enforcement officer verify (by signature) the list of items included in the container. Upon arrival at the hospital, turn the container over to the appropriate hospital staff member, verify content, and obtain a signature from the individual receiving the property.

Retain a copy of the list (with the signature) and attach to the patient care report.

If EMS personnel locate any patient's property within the ambulance after care of the patient has been transferred to the receiving facility, EMS personnel should make every effort to ensure the patient's property is returned to the patient. Any property that has been located after transfer of care should be returned to the patient, witnessed by the hospital staff, and documented on an addendum to the patient care report.

If an EMS service and/or a receiving facility have a specific protocol for transfer of patient's valuables, follow the local protocol.

Safe Transport of Pediatric Patients

Children are at risk of injury during transport by EMS. Appropriate protection must be provided for all pediatric patients. The National Highway and Traffic Safety Administration recently published Best Practice Recommendations for Safe Transport of Children.

See: http://www.nhtsa.gov/staticfiles/nti/pdf/811677.pdf

- No child or infant should ever be held in the arms or lap of parent, caregiver, or medic during transport. **NEVER.**
- All monitoring devices and equipment should be tightly secure.
- Personnel should be secure.
- Children who are not patients should be transported, properly restrained, in an alternate passenger vehicle, whenever possible.
- Available child restrain devices should be used for all pediatric patients less than 40 pounds, according to manufacturer's instructions, if the patient is not secured by other means as part of patient care.
- Do not transport a pediatric patient who meets CDC Field Triage Criteria in a child seat that was involved in an MVC.
- While manufacturers do not recommend using a child's own car seat for transportation post accident, this may be better than no restraint during transport. Use of child safety seat after involvement in a minor MVC may be allowed if **all** of the following apply:
    - Visual inspection, including under movable seat padding, does not reveal cracks or deformity.
    - Vehicle in which safety seat was installed was capable of being driven from the scene.
    - Vehicle door nearest the child safety seat was undamaged.
    - Air bags (if any) did not deploy.

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Patients with Special Healthcare Needs

Children and adults with special healthcare needs include those on ventilators; with tracheotomies, indwelling catheters, gastrostomy tubes; left ventricular assist devices (LVAD); and bariatric patients. As medical technology advances and home health capabilities increase, new equipment and patient needs will appear.

General considerations:

- Do not be overwhelmed by equipment. Treat the ABCs first. Treat the patient, not the equipment. If the emergency is due to an equipment malfunction, manage the patient using your own equipment.
- Parents and caretakers are usually trained in device management, and can assist EMS personnel. Ask for their guidance.
- When moving a special needs patient, use slow, careful transfer. Transfer of bariatric patients will require additional manpower. Do not use excessive force to straighten or manipulate contracted extremities, as this may cause injury or pain to the patient.
- Transfer the patient if possible to their medical "home" hospital. This may involve bypassing the closest facility.
- Ask for the ***"go bag"*** which generally has the patient's spare equipment and supplies and bring this with you during transport. Also, this may have equipment you need on scene.
- Physical handicaps do not necessarily imply mental deficits. Remember to communicate with the patient
- Find out the patient's baseline vital signs, medications, allergies, and other medical information, which may not be typical.

Suspected Abuse

All healthcare providers are obligated by law to report cases of suspected child, elder, or vulnerable adult abuse.

Report all alleged or suspected abuse or neglect to the appropriate agency. Georgia Code requires providers to report incidents of abuse to their county's public children services agency or a municipal or county peace officer.

Simply notifying hospital personnel about concerns of maltreatment do not meet mandated EMS reporting responsibilities. If any maltreatment is suspected, the EMS provider MUST, by law, notify the local public children services agency or law enforcement as soon as possible.

Physical abuse and neglect is often difficult to determine - the following are indicators of possible abuse:

- Injuries scattered on many areas of the body
- Malnutrition or lack of cleanliness
- Any fracture in an child under 2 years of age
- Injuries in various stages of healing
- More injuries than are usually seen in other children of the same age.

Initial Management:

- **DO NOT** confront or become hostile to the parent or caregiver
- Treat any obvious injuries.
- In cases of suspected sexual abuse or assault
  - Discourage patient from washing and/or using the restroom
  - If the child/patient has not changed clothes, transport patient in these clothes.
  - If clothes have been removed but unwashed, bring clothes and underwear with patient in a paper (not plastic) bag.
  - Do not delay transport to search for evidence.

- If caregivers refuse to let you transport the child/patient after treatment, remain at the scene and notify law enforcement
- Contact Medical Control and advise of questionable injuries but **DO NOT** report abuse and neglect over the radio.

Reporting:

- Report your suspicions to the ED physician.
- Notify the local public children services agency or law enforcement as soon as possible. **You are legally responsible reporting your suspicions.**
- **DO NOT** initiate the report in front of the patient or caregiver.

Documentation:

- Document any statement the child/patient makes in their own words. All verbatim statements made by the patient, the parent, or caregiver should be placed in quotation marks.
- Document unexplained injuries, discrepant history, delays in seeking medical care, and repeated episodes of suspicious injuries.
- Document history, physical exam findings, environmental surroundings, and ED notification on the Prehospital Care Report.

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Suspected Abuse (Continued)

The Law

TITLE 19. DOMESTIC RELATIONS
CHAPTER 7. PARENT AND CHILD RELATIONSHIP GENERALLY
ARTICLE 1. GENERAL PROVISIONS

O.C.G.A. § 19-7-5 (2012)

(e) An oral report shall be made immediately, but in no case later than 24 hours from the time there is reasonable cause to believe a child has been abused, by telephone or otherwise and followed by a report in writing, if requested, to a child welfare agency providing protective services, as designated by the Department of Human Services, or, in the absence of such agency, to an appropriate police authority or district attorney. If a report of child abuse is made to the child welfare agency or independently discovered by the agency, and the agency has reasonable cause to believe such report is true or the report contains any allegation or evidence of child abuse, then the agency shall immediately notify the appropriate police authority or district attorney. Such reports shall contain the names and addresses of the child and the child's parents or caretakers, if known, the child's age, the nature and extent of the child's injuries, including any evidence of previous injuries, and any other information that the reporting person believes might be helpful in establishing the cause of the injuries and the identity of the perpetrator. Photographs of the child's injuries to be used as documentation in support of allegations by hospital staff, physicians, law enforcement personnel, school officials, or staff of legally mandated public or private child protective agencies may be taken without the permission of the child's parent or guardian. Such photograph shall be made available as soon as possible to the chief welfare agency providing protective services and to the appropriate police authority.

(f) Any person or persons, partnership, firm, corporation, association, hospital, or other entity participating in the making of a report or causing a report to be made to a child welfare agency providing protective services or to an appropriate police authority pursuant to this Code section or any other law or participating in any judicial proceeding or any other proceeding resulting therefrom shall in so doing be immune from any civil or criminal liability that might otherwise be incurred or imposed, provided such participation pursuant to this Code section or any other law is made in good faith. Any person making a report, whether required by this Code section or not, shall be immune from liability as provided in this subsection.

TITLE 31. HEALTH
CHAPTER 8. CARE AND PROTECTION OF INDIGENT AND ELDERLY PATIENTS
ARTICLE 4. REPORTING ABUSE OR EXPLOITATION OF RESIDENTS IN LONG-TERM CARE FACILITIES

O.C.G.A. § 31-8-82 (2012)
§ 31-8-82. Reporting abuse or exploitation; records
(a) Any:
(1) Administrator, manager, physician, nurse, nurse's aide, orderly, or other employee in a hospital or facility;
(2) Medical examiner, dentist, osteopath, optometrist, chiropractor, podiatrist, social worker, coroner,
clergyman, police officer, pharmacist, physical therapist, or psychologist; or
(3) Employee of a public or private agency engaged in professional services to residents or responsible for inspection of long-term care facilities who has knowledge that any resident or former resident has been abused or exploited while residing in a long-term care facility shall immediately make a report as described in subsection (c) of this Code section by telephone or in person to the department. In the event that an immediate report to the department is not possible, the person shall make the report to the appropriate law enforcement agency. Such person shall also make a written report to the department within 24 hours after making the initial report.
(b) Any other person who has knowledge that a resident or former resident has been abused or exploited while residing in a facility may report or cause a report to be made to the department or the appropriate law enforcement agency.

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Suspected Abuse (Continued)

§ 31-8-82. Reporting abuse or exploitation; records (continued)
(c) A report of suspected abuse or exploitation shall include the following:
(1) The name and address of the person making the report unless such person is not required to make a report;
(2) The name and address of the resident or former resident;
(3) The name and address of the facility;
(4) The nature and extent of any injuries or the condition resulting from the suspected abuse or exploitation;
(5) The suspected cause of the abuse or exploitation; and
(6) Any other information which the reporter believes might be helpful in determining the cause of the resident's injuries or condition and in determining the identity of the person or persons responsible for the abuse or exploitation.

TITLE 30. HANDICAPPED PERSONS
CHAPTER 5. PROTECTION OF DISABLED ADULTS AND ELDER PERSONS

O.C.G.A. § 30-5-4 (2012)

(b) (1) A report that a disabled adult or elder person who is not a resident of a long-term care facility as defined in Code Section 31-8-80 is in need of protective services or has been the victim of abuse, neglect, or exploitation shall be made to an adult protection agency providing protective services, as designated by the department or, if such agency is unavailable, to an appropriate law enforcement agency or prosecuting attorney.
(2) The report may be made by oral or written communication. The report shall include the name and address of the disabled adult or elder person and should include the name and address of the disabled adult's or elder person's caretaker, the age of the disabled adult or elder person, the nature and extent of the disabled adult's or elder person's injury or condition resulting from abuse, exploitation, or neglect, and other pertinent information. All such reports prepared by a law enforcement agency shall be forwarded to the director within 24 hours.
(c) Anyone who makes a report pursuant to this chapter, who testifies in any judicial proceeding arising from the report, who provides protective services, or who participates in a required investigation under the provisions of this chapter shall be immune from any civil or criminal liability on account of such report or testimony or participation, unless such person acted in bad faith, with a malicious purpose, or was a party to such crime or fraud. The immunity described in this subsection shall apply not only with respect to the acts of making a report, testifying in a judicial proceeding arising from a report, providing protective services, or participating in a required investigation but also shall apply with respect to the content of the information communicated in such acts.

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Patient Initiated Refusal of Care

Persons identified by EMS as a patient may have requested an EMS response or may have had an EMS response requested for them. An assessment must be offered and performed, to the extent permitted, on all patients. For patients initially refusing care, attempt to ask them, "Would you allow us to check you out and evaluate whether you are okay?"

Adult patients may refuse evaluation, treatment, and/or transport. Similarly, a patient's parent or guardian may make these same refusals.

Determination of capacity to refuse has 4 components:

- Legal capacity to refuse:
  - Age 18 or older
  - Emancipated minor (married, pregnant, or the parent of a child)
  - No suicidal or homicidal intent expressed
- Mental capacity to refuse:
  - Oriented X 3
  - Any language barrier has been removed
- Medical capacity to refuse:
  - No altered level of consciousness, by injury, illness, or substance
  - No abnormal blood glucose
  - No abnormal pulse ox
  - No serious chief complaint (chest pain, difficulty breathing, syncope)
  - No serious mechanism of injury
- Medical Control Contacted

Documentation should include:

- Signature of patient/parent/guardian. If refusal to sign, documentation of refusal should be signed by 2 witnesses.
- Vital signs and evaluation as allowed by patient.
- Description of possible consequences of refusal, as described to patient
- Statement that the patient may call 9-1-1 at any time if assistance or treatment is desired or required.

Withholding or Termination of Resuscitation

In all situations where any possibility of life exists, make every effort to resuscitate.

DO NOT TERMINATE resuscitation efforts if:

- Patient is under age 18
- Patient is visibly pregnant
- Arrest may be due to hypothermia, drug overdose, toxins, or electrocution
- Any ROSC or neurologic signs
- Scene situations place EMS in jeopardy

Termination of resuscitative efforts for trauma victims (blunt or penetrating) should be determined by each local EMS medical director, based on local resources. Typically, victims of traumatic cardiac arrest do not survive if no EMS-witnessed signs of life were ever present and the patient is asystolic.

DO NOT INITIATE resuscitation if:

- Obvious death in the field: absence of vital signs **and** any of the following:
  - Decapitation
  - Decomposition
  - Rigor mortis
  - Dependent lividity
  - Incineration
  - Visual massive trauma to brain or heart, incompatible with life
- The individual has been pronounced dead by a Georgia Licensed Physician, Medical Examiner, or Coroner.
- Valid DNR order

DNR Orders and Other Advanced Directives:

- Advanced Directives and Living Wills are addressed in State Code: OCGA Chapter 32 Title 31.
- If a family member does not want the DNR Order to be honored, continue BLS until Medical Control is contacted for guidance.
- If medics are advised that the patient has an existing DNR Order, but the document IS NOT PRESENT AT THE SCENE, initiate BLS, contact Medical Control.
- A living will is intended to address patients who have been admitted to a healthcare facility. Living wills will rarely, if ever, have application in the prehospital environment.
- If presented with a document other than a valid DNR Order, such as a Living Will or Durable Power of Attorney, which appears to be an Advanced Directive, regarding resuscitation, initiate BLS until Medical Control is contacted for guidance.

The Law

O.C.G.A. § 31-39-6.1 (2012)
§ 31-39-6.1. Form of order not to resuscitate; bracelet or necklace; revocation or cancellation of order

(a) In addition to those orders not to resuscitate authorized elsewhere in this chapter, any physician, health care professional, nurse, physician assistant, caregiver, or emergency medical technician shall be authorized to effectuate an order not to resuscitate for a person who is not a patient in a hospital, nursing home, or licensed hospice if the order is evidenced in writing containing the patient's name, date of the form, printed name of the attending physician, and signature of the attending physician on a form substantially similar to the following:

"DO NOT RESUSCITATE ORDER
NAME OF PATIENT:
THIS CERTIFIES THAT AN ORDER NOT TO RESUSCITATE HAS BEEN ENTERED ON THE ABOVE-NAMED PATIENT.

SIGNED:

ATTENDING PHYSICIAN
PRINTED OR TYPED NAME OF ATTENDING PHYSICIAN:
ATTENDING PHYSICIAN'S TELEPHONE NUMBER:
DATE: "

(b) A person who is not a patient in a hospital, nursing home, or licensed hospice and who has an order not to resuscitate pursuant to this Code section may wear an identifying bracelet on either the wrist or the ankle or an identifying necklace and shall post or place a prominent notice in such person's home. The bracelet shall be substantially similar to identification bracelets worn in hospitals. The bracelet, necklace, or notice shall provide the following information in boldface type:

Pediatric Clinical Guidelines

Georgia Department of Public Health		
	J. Patrick O'Neal, MD, State EMS Medical Director:	J Patrick O'Neal M.D.
	Jill Mabley, MD, Deputy EMS Medical Director:	Jill Mabley, MD, FAAEM
	Effective Date:	January 29, 2013

Pediatric Guidelines

Contents:

Georgia Department of Public Health		
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Pediatric Assessment

- First Impression
  - Appearance - Observe muscle tone, interactivity, consolability, look/gaze, and speech/cry
  - Breathing - Observe chest wall movement and accessory muscle use. Listen for abnormal airway sounds
  - Circulation - Observe the skin color for pallor, mottling, or cyanosis

Based on your First Impression, does the child appear sick?

YES

Urgent

- Proceed immediately with evaluation of the Primary Survey (ABCDE)
- If a problem is identified, perform necessary interventions

Primary Survey

- Airway - assess airway patency
  - open, clear, and maintain airway
- Breathing - assess rate and quality of breathing
  - assure adequate ventilation
  - initiate appropriate oxygen therapy
- Circulation - assess pulses and perfusion status
  - control major bleeding
  - manage shock appropriately
- Disability - assess LOC
  - is the child responding and acting appropriately
- Exposure/Environment - undress the child as appropriate
  - evaluate body temperature examine skin for rashes, discoloration, and trauma.
  - assess the behavior of adults, appearance of other children, and safety of the home

Secondary Assessment

NO

Not Urgent

- Proceed systematically with the patient assessment.

Though they may not appear sick, trauma patients should receive a rapid primary survey and rapid transport when significant mechanism of injury exist. These patients may appear well despite their emergent condition.

Primary Survey (ABCDE)

- Airway
- Breathing
- Circulation
- Disability
- Exposure/Environment

Secondary Assessment

- Vital signs
- Focused history
- Physical examination

Ongoing assessment

Document:

- Vital signs
- OPQRST/SAMPLE
- Environment observations
- Treatment
- Communication with medical control

For the non-urgent child, a toe-to-head assessment, with the least invasive parts of the examination being performed first, will allow the child some time to become accustomed to you and will help maximize the information gained from the assessment.

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Pediatric Pain Management

- First Impression
  - Appearance
  - Breathing
  - Circulation

↓

- Primary Survey
  - Assure airway - assure patency and proper positioning
    - Consider SMR if evidence of trauma
  - Assess breathing - give O_2 as tolerated by mask or blow-by to maintain SpO2 ≥ 94%
    - Assist with BVM if ineffective respiratory effort
  - Assess circulation - manage bleeding and/or shock appropriately
  - Assess disability - assess LOC
  - Exposure/environment - undress the child as appropriate

↓

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - **ALS** Initiate cardiac monitoring
  - OPQRST/SAMPLE history
  - Physical exam
- Place patient in position of comfort
- Immobilize any obvious injuries
  - Elevate injured extremities, if possible
  - Consider application of a cold pack
- Keep the patient NPO
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock

↓

STOP
Contact Medical Control or refer to local protocol. Orders may include:

↓

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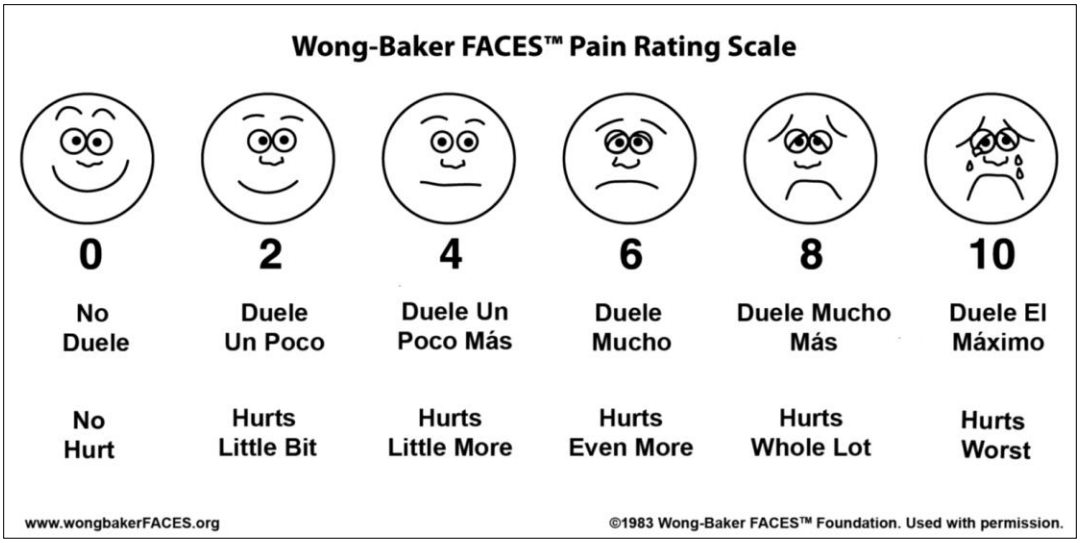
Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Pain scale
- Communication with medical control

Pediatric Pain Management (Continued)

- Assess the patient's pain
  - Ages 3-8 years - use Wong-Baker FACES scale (below)
  - Ages 8-18 years - use numerical scale
- If pain scale ≥ 6, consider morphine ***or*** fentanyl
  - ALS Morphine - 0.1mg/kg IV/IO slowly or IM up to a 4 mg max
  - ALS Fentanyl - 1mcg/kg IV/IO slowly or IN up to a 75 mcg max

After intervention, reassess mental status, pain level, and signs of respiratory depression every 5 minutes.

- If respirations become depressed, consult Medical Control for possible naloxone order
- If patient becomes nauseated or vomits, consult Medical Control



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Pediatric Shock Management

Applies to patients presenting with signs and symptoms consistent with shock.
All forms of shock are associated with inadequate tissue perfusion.

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - assure patency and proper positioning
    - Consider SMR if evidence of trauma
  - Assess breathing - give (high-flow) O_2 as tolerated by mask or blow-by to maintain SpO2 ≥ 94%
    - Assist with BVM if ineffective respiratory effort
  - Assess circulation - control bleeding if present
  - Assess disability - assess LOC
  - Exposure/environment - take measures to prevent hypothermia

Children possess very strong compensatory mechanisms which allow them to appear relatively well in early shock. However, once these mechanisms are overwhelmed they tend to decompensate rapidly. Early manifestations of shock may be subtle. The perfusion status of infants and children must be evaluated carefully and frequently.

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Initiate cardiac monitoring - treat dysrhythmias per appropriate guideline
  - Initiate $ETCO_2$ monitoring (If available)
  - OPQRST/SAMPLE history
  - Physical exam
- Keep the patient NPO
- ALS Advanced airway/ventilatory management as needed
- Initiate IV/IO
  - For hypovolemic shock, administer normal saline 20ml/kg
  - For cardiogenic shock, administer normal saline at KVO rate
  - For all other types of shock, administer normal saline 20ml/kg
  - Fluid boluses may be repeated x 1 - titrate to clinical effect
- Attempt to identify cause and treat in accordance with appropriate guideline (tension pneumothorax, overdose, trauma, etc.)

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Pediatric Shock Management (Continued)

- Initiate patient transport as soon as possible
- Continue resuscitation and evaluation enroute – Frequently revaluate ABCs and mental status

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Communication with medical control

- If patient deteriorates or fails to improve, Medical Control may authorize the following
  - For hypovolemic shock, administer additional 20ml/kg NS bolus
  - For cardiogenic shock, assure rate and rhythm have been treated
    - Consider dopamine drip 5-20 mcg/kg/minute - titrate to clinical effect
  - For all other types of shock, administer normal saline 20ml/kg

Dopamine Infusion: Standard 1600mcg/ml Concentration

Broselow Color	Weight (kg)	Milliliters hour or drops per minute with micro drip tubing (60gtt/ml)				
		5 mcg/kg/hr	7.5 mcg/kg/hr	10 mcg/kg/hr	15 mcg/kg/hr	20 mcg/kg/hr
Gray	3	0.6*	0.8*	1.1	1.7	2.3
Gray	4	0.8*	1.1	1.5	2.3	3.0
Gray	5	0.9*	1.4	1.9	2.8	3.8
Pink	6-7	1.2	1.9	2.4	3.7	4.9
Red	8-9	1.6	2.4	3.2	4.8	6.4
Purple	10-11	2	3	3.9	5.9	7.9
Yellow	12-14	2.4	3.7	4.9	7.3	9.8
White	15-18	3.1	4.7	6.2	9.3	12.4
Blue	19-23	3.9	5.9	7.9	11.8	15.8
Orange	24-29	5	7.5	9.9	14.9	19.9
Green	30-36	6.2	9.3	12.4	18.6	24.8

*For rates <1 mL/hour, consider using 800 mcg/mL concentration.

Dopamine Infusion: 800mcg/ml Concentration

Broselow Color	Weight (kg)	Milliliters hour or drops per minute with micro drip tubing (60gtt/ml)				
		5 mcg/kg/hr	7.5 mcg/kg/hr	10 mcg/kg/hr	15 mcg/kg/hr	20 mcg/kg/hr
Gray	3	1.1	1.7	2.3	3.4	4.5
Gray	4	1.5	2.3	3.0	4.5	6.0
Gray	5	1.9	2.8	2.8	5.6	7.5

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Pediatric Apparent Life Threatening Event (ALTE)

Applies to patients who have experienced an episode that is frightening to the observer and involved some combination of apnea, choking or gagging, color change, and/or marked change in muscle tone (child is floppy). ALTE usually occurs in infants less than 12 months.

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - assure patency and proper positioning
    - Consider SMR if evidence of trauma
  - Assess breathing - give O_2 as tolerated by mask or blow-by
    - Assist with BVM if ineffective respiratory effort
  - Assess circulation - manage shock appropriately
  - Assess disability - assess LOC
  - Exposure/environment - undress the child as appropriate

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present
    - If BGA is less than 60mg/dl and the patient is symptomatic
      - < 6mo: 5ml/kg of D10W IV/IO,
      - 6mo-2yrs: 2ml/kg of D25W IV/IO
      - > 2yrs: 1ml/kg of D50W IV/IO

  ALS Initiate cardiac monitoring
  - Complete thorough history and physical
    - Assess for history of apnea, decreased tone, pallor or cyanosis
    - Obtain history of possible med/toxin exposure and/or ingestions
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock

TRANSPORT! Often patients with ALTE are asymptomatic when EMS arrives. Evaluation and transport is still needed. Contact medical control if parent/guardian is refusing medical care and/or transport.

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- Pertinent assessment findings
- Onset/duration of event
- Treatment
- Communication with medical control

ALS If patient shows continued respiratory depression, consider administration of naloxone 0.01mg/kg IV/IO slowly or IN (If no clinical improvement, 0.1mg/kg may be administered, max 2mg)

Childbirth/Labor

Applies to women whose chief complaint is related to labor and /or impending delivery.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - have suction ready
  - Assess breathing - give supplemental O_2 if signs of compromise or SpO_2 <94%
  - Assess circulation - manage shock appropriately

Altered LOC and signs of poor perfusion could indicate shock and should be managed appropriately.

If a patient is unstable, initial resuscitation/stabilization must precede any action specified in this protocol. Resuscitation of the mother is the key to survival of both mother and fetus.

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present

ALS Consider cardiac monitoring

  - OPQRST/SAMPLE, LMP, obstetric, and gynecological history

Determine: how many previous deliveries, due date, onset of contractions, if membranes have ruptured, if bleeding or vaginal discharge present, if patient has urge to push or move bowels, and if pregnancy is high risk.

  - Time contractions - frequency and duration
  - Physical exam - assess for signs of shock
- IV/IO access with normal saline - initiate 20ml/kg normal saline bolus
- If active labor, inspect the perineum for crowning
  - If crowning, apply gentle pressure with your glove hand to the infant's head and prepare for delivery.
  - If no crowning, monitor and reassess frequency and duration of contractions.
- If feet or buttocks presentation – **DO NOT** pull on Infant
  - Support head and trunk
  - Place your gloved hand inside the vagina and form **V** with first two fingers, place over infant's face -keep vagina wall away infant's face
- If prolapsed cord
  - Place mother in a knee chest position to relieve pressure on the cord.
  - Place your gloved hand inside the vagina and push upward on the presenting part to further reduce pressure on the cord
  - Cover the cord with moist sterile dressings and avoid manipulating it

Priority symptoms: Crowning < 36 weeks gestation, prolapsed cord, abnormal presentation, severe vaginal bleeding, multiple gestation or seizure. If noted, expedite transport and notify Medical Control as early as possible.

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Childbirth/Labor (Continued)

- Delivery and Post Delivery Care of· Mother
  - Maintain gentle pressure on the infant's head and allow it to deliver in a controlled gradual manner. *Routine suctioning of the oropharynx and nasal pharynx as soon as the head is delivered is no longer recommended.*
  - Check around the infant's neck for the umbilical cord
  - If the cord has looped around the baby's neck, use your finger to hook the cord and pull it over the baby's head
  - If unable to free the cord, clamp the cord in two places and cut the cord between the clamps
  - Gently direct the infant's head and body downward to deliver the anterior shoulder and support the rest of the body as it delivers
  - Keep the infant at the level of the vagina and use a gauze pad to wipe any secretions around the mouth and nose
  - Vigorously dry the infant and provide warmth (increasing ambient temperature, cover with blanket)
  - If needed, stimulate breathing by flicking the soles of the baby's feet or rubbing the baby's back
  - Clamp the cord at 4 and 6 inches and cut the cord between the clamps.
  - Wrap the blankets in dry, clean towels or blankets
  - Note time of delivery. Obtain APGAR score at 1 and 5 minutes after delivery. **Score ≤ 3: critical. Score ≥ 7: good to excellent**
  - If excessive secretions AND signs of compromise are present, clear airway with bulb syringe

If the newborn fails to respond to initial stimulation and are in need of resuscitation efforts, initiate resuscitation and refer to the *Newborn Resuscitation* guideline.

  - Once the placenta delivers, place it in a clean container and transport it to the hospital with the mother and infant
  - After delivery, keep mother warm and watch for signs of shock
  - If excessive blood loss, > 500ml - apply abd pad to external vaginal area
    - consider an additional fluid bolus
    - massage the uterus to promote uterine contraction
    - consider allowing mother to breastfeed infant

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- Obstetric history
- Frequency/duration of contractions
- Treatment
- Communication with medical control

- Transport to a facility capable of handling an obstetrical patient

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Newborn Resuscitation

Applies to term and pre-term newborn patients who fail to respond to initial stimulation and are in need of resuscitation efforts. This guideline also applies to all newborns and infants in the first few weeks of life.

Within the first thirty seconds:

- As soon as the baby is born: vigorously dry the infant and provide warmth (increasing ambient temperature, cover with blanket)
- Position the infant to open the airway
- Clamp and cut cord
- If excessive secretions AND signs of compromise are present, clear airway with bulb syringe
  - Routine suctioning of the oropharynx and nasal pharynx as soon as the head is delivered is no longer recommended
  - If meconium staining is present AND the newborn is not vigorous (weak or absent respiratory efforts, weak or absent muscle tone, heart rate less than 100 beats per minute), tracheal suctioning may be considered
- Stimulate breathing (flicking the soles of the baby's feet or rubbing the baby's back)

Assess respirations:

- If inadequate or gasping respirations are present, assist ventilation at a rate of 40 to 60 breaths per minute using a BVM with 100% oxygen.
- If the respirations are shallow or slow, attempt a 1-minute period of stimulation while administering oxygen via blow-by
  - If respirations do not increase, assist ventilation at a rate of 40 to 60 breaths per minute using a BVM with 100% oxygen

Assess heart rate:

- If less than 60 beats per minute, begin chest compressions.
  - Compression-to-ventilation ratio of 3:1 in neonatal resuscitation, compress at 120/min
  - Compressions should be discontinued when the heart rate is higher than 60 beats/min

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Newborn Resuscitation (Continued)

Most neonates transition to post-natal life without difficulty. About 10% of infants require some assistance to begin breathing at birth. Less than 1% require extensive resuscitative measures.

Advanced Resuscitation:

ALS Consider advanced airway (one attempt only) for:
- Persistent apnea
- Central cyanosis
- Bradycardia (HR < 100)

- If HR persistently < 60:
  - Continue CPR
  - Ensure that optimal ventilation is being provided with 100% oxygen
  - Initiate IV/IO normal saline
  - ALS For persistent HR < 60, administer 1:10,000 epinephrine 0.01mg/kg (0.1ml/kg) IV/IO every 3-5 minutes as needed
- Obtain blood glucose level; if < 60, administer D10W 0.5g/kg (5ml/kg) IV/IO
- If no improvement despite adequate ventilation, chest compressions, and epinephrine, consider fluid administration: 10 mL/kg normal saline over 5 to 10 minutes

STOP
Contact Medical Control

Document:
- Appearance
- Respirations
- Heart rate
- Color
- Resuscitation efforts
- APGAR scores
- Communication with medical control

APGAR score to be calculated at 1 and 5 minutes after delivery. Score ≤ 3: critical. Score ≥ 7: good to excellent.

	0 points	1 point	2 points
Appearance (skin color)	Body and extremities cyanotic	Body pink, extremities cyanotic	No cyanosis;
Pulse rate	Absent	< 100 beats/minute	>100 beats/minute
Grimace (irritability)	No response to stimulation	Grimace, feeble cry when stimulated	Cry or pull away when stimulated
Activity (muscle tone)	None or limp	Some flexion	Active motion; arms and legs flexed
Respiration	Absent	Weak, gasping	Strong cry, good respiratory effort

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Pediatric Bradycardia

Applies to patients with a heart rate < 60 beats per minute.

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - assure patency and proper positioning
  - Assess breathing - give O_2 as tolerated by mask or blow-by
    - ventilate with BVM and 100% O_2 if ineffective respiratory effort.
    - avoid hyperventilation

The most common cause of bradycardia in a child is hypoxia. Assure airway is patent and ventilation is adequate.

  - Assess circulation - peripheral pulses, CRT, skin color/temp
    - if patient is stable, monitor and transport.
    - if HR<60 with signs of shock after adequate ventilation, start CPR
  - Assess disability - assess LOC
  - Exposure/environment - undress the child as appropriate

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Initiate cardiac monitoring
  - Physical exam and OPQRST/SAMPLE history

Signs and symptoms: may be nonspecific, such as dizzy or weak, or may be dramatic with shock, altered LOC, difficulty breathing and collapse

- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
- If bradycardia and signs of cardiopulmonary compromise persist,
  - ALS 1:10,000 epinephrine; 0.01 mg/kg IV/IO
    - may repeat every 3-5 minutes
  - ALS Atropine 0.02 mg/kg IV/IO - minimum dose: 0.1 mg
    - may repeat once in 5 minutes

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- Pertinent assessment findings
- Onset/duration of event
- Treatment
- Communication with medical control

- If no response,
  - ALS Consider transcutaneous pacing
  - ALS If suspected beta-block or calcium channel blocker ingestion
    - consult Medical Control for treatment

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Pediatric Tachycardia

Applies to patients with a heart rate that is fast compared to normal for the patient's age; and too fast for the child's level of activity and clinical condition.

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - assure patency and proper positioning
  - Assess breathing - give O_2 as tolerated by mask or blow-by
    - ventilate with BVM and 100% O_2 if ineffective respiratory effort
  - Assess circulation - evaluate peripheral pulses, verify heart rate
    - If no pulse, start CPR, treat according to *Pulseless Arrest* guideline
  - Assess disability - assess LOC
  - Exposure/environment - undress the child as appropriate

Altered LOC and signs of poor perfusion could indicate shock and should be managed appropriately.

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present

ALS Initiate cardiac monitoring

ALS Record and evaluate 12-lead ECG (if available) - don't delay therapy

  - Physical exam and OPQRST/SAMPLE history

Signs and symptoms: may be nonspecific, such as dizzy or weak, or may be dramatic with shock, altered LOC, difficulty breathing and collapse.

Sinus Tachycardia

HR <180/min in children or <220/min in infants
QRS ≤0.08 Seconds

- If signs of cardio-pulmonary compromise,
- IV/IO NS - 20ml/kg
- Search for and treat causes – hypovolemia, dehydration, etc.

SVT

HR >180/min in children or >220/min in infants

- If signs of cardio-pulmonary compromise, IV/IO NS - 20ml/kg

ALS Consider vagal maneuvers

ALS Adenosine IV/IO

- 1st Dose 0.1mg/kg
- 2nd Dose 0.2mg/kg

Wide-Complex Tachycardia

QRS >0.08 Seconds

- If signs of cardio-pulmonary compromise,
- IV/IO NS - 20ml/kg

ALS Consider sedation - don't delay cardioversion

ALS Synchronized cardiovert with 1 J/kg; may repeat with 2 J/kg

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Pediatric Tachycardia (Continued)

ALS Advanced airway management; ventilate with 100% oxygen if indicated
- If at any time a cardiac rhythm other than tachycardia is noted, treat based on the appropriate guideline

STOP
Contact Medical Control or refer to local protocol.

Document:
- Vital signs
- History
- Cardiac rhythm
- Treatment
- Communication with medical control

Sinus Tachycardia

HR <180/min in children or <220/min in infants
QRS ≤0.08 Seconds

The most common causes of sinus tachycardia in children are hypovolemia and dehydration.

SVT

HR >180/min in children or >220/min in infants
- If adenosine is ineffective and shock persists,

ALS Consider sedation - don't delay cardioversion

ALS Synchronized cardiovert with 1 J/kg; may repeat with 2 J/kg

Wide-Complex Tachycardia

QRS >0.08 Seconds
- If cardioversion is ineffective and shock persists,

ALS Consider anti-dysrhythmics as per Medical Control

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Pediatric Pulseless Arrest

- Resuscitation
  - Assess patient for respiratory and cardiac arrest
  - Initiate CPR and {AED/Defibrillator} using most current American Heart Association guidelines
  - Provide high-quality compressions, minimizing interruptions
  - Compressions should be at a rate of about 100-120 per minute
  - Ventilate with BVM and 100% oxygen, consider OPA/NPA
  - Consider advanced airway management
    - Do not delay resuscitation for advanced airway placement
    - If advanced airway is utilized, initiate ETCO2 monitoring

Shockable Rhythm???

YES

VF/ Pulseless VT

- Defibrillate 2 joules/kg
- Resume CPR for 2 minutes
- Initiate IV/IO normal saline
- 1:10,000 epinephrine 0.01mg/kg (0.1ml/kg) IV/IO, repeat every 3-5 minutes
- Reassess rhythm every 2 minutes, if rhythm is organized, check pulse
- Defibrillate 4 joules/kg
- Resume CPR for 2 minutes
- Amiodarone* 5mg/kg bolus, may repeat up to 2 times for refractory VF/ VT
- Continue CPR/treatment as indicated
- Consider and treat reversible causes

NO

Asystole/PEA

- Initiate IV/IO normal saline
- 1:10,000 epinephrine 0.01mg/kg (0.1ml/kg) IV/IO, repeat every 3-5 minutes
- Reassess rhythm every 2 minutes, if rhythm is organized, check pulse
- Continue CPR/treatment as indicated
- Consider and treat reversible causes
  - Hypovolemia
  - Hypoxia
  - Hydrogen Ion
  - Hypoglycemia
  - Hypokalemia
  - Hyperkalemia
  - Hypothermia
  - Tension Pnuemo
  - Tamponade
  - Toxins
  - Thrombosis

STOP
Contact Medical Control or refer to local protocol.

Document:
- Events preceding arrest
- Code summary
- Treatment
- Contact with Medical Control

- **Transport to the closest appropriate facility.**
- If cardiac rhythm change is noted treat based on the appropriate guideline.

* Lidocaine may be utilized if authorized by Medical Control or local agency protocol.

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Pediatric Abdominal Discomfort

Applies to patients with pain/discomfort presenting in the abdomen or the flanks with no history or signs of trauma.

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - assure patency and proper positioning
  - Assess breathing - give O_2 as tolerated by mask or blow-by to maintain SpO2 ≥ 94%
  - Assist with BVM if ineffective respiratory effort
  - Assess circulation - manage shock appropriately
  - Assess disability - assess LOC
  - Exposure/environment - undress the child as appropriate

Altered LOC and signs of poor perfusion could indicate shock and should be managed appropriately

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present

ALS Cardiac monitor - record and evaluate 12 Lead ECG (if available)

  - OPQRST/SAMPLE history
    - History of blood in vomit or stool? Prior abdominal surgery? Last meal?
  - Physical exam - assess for signs of dehydration/shock
- Consider possible causes; GI,GU, cardiac, meds/toxic ingestion, pregnancy
- Save emesis or other drainage for signs of GI bleed, etc.
- Keep the patient NPO
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Communication with medical control

ALS For pain management, see *Pain Management* guideline

ALS If nausea or vomiting present, see *N/V* guideline

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Pediatric Allergic Reaction/Anaphylaxis

Patients presenting with rash, hives, shortness or breath, or other signs and symptoms, up to and including shock, possibly due to an allergic reaction.

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - assure patency and proper positioning
  - Assess breathing - give O_2 as tolerated by mask or blow-by
  - Assess circulation - manage shock appropriately
  - Assess disability - assess LOC
  - Exposure/environment - undress the child as appropriate

If respiratory compromise and/or signs of shock, treat immediately with epinephrine. All EMS provider levels are authorized to utilize epinephrine auto-injectors. (AEMT, CT, and P providers may give 1:1000 epinephrine SQ or IM.)

- Isolate the patient form the source of allergen, if possible.
- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Monitor capnography (if available)
  - ALS Initiate cardiac monitoring
  - Physical exam and OPQRST/SAMPLE history

ALS Advanced airway/ventilatory management as needed

- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
- If localized reaction (hives)
  - ALS Diphenhydramine 1-2mg/kg IV slowly or deep IM, max 25mg
- If respiratory distress, along with diphenhydramine
  - ALS 1:1,000 epinephrine 0.01mg/kg SQ
  - Nebulize albuterol* 2.5mg <15kg, 5mg>15kg for bronchospasm
- If anaphylactic shock
  - Do not delay epinephrine administration attempting IV/IO access
  - ALS 1:1,000 epinephrine 0.01mg/kg IM (preferred) or SQ, max 3mg

All levels may repeat 1:000 epinephrine IM/SQ/auto-injector (in accordance with their scope of practice) every 5 minutes as needed

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*Other bronchodilators may be utilized if authorized by Medical Control or local agency protocol.

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Pediatric Allergic Reaction/Anaphylaxis (Continued)

- If anaphylactic shock
  - Do not delay epinephrine administration attempting IV/IO access

ALS 1:1,000 epinephrine 0.01mg/kg IM (preferred) or SQ, max 3mg

All levels may repeat 1:000 epinephrine IM/SQ/auto-injector (in accordance with their scope of practice) every 5 minutes as needed.

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Communication with medical control

ALS If no response within 10 min to the IM or SQ epinephrine and fluid bolus, administer 1:10,000 epinephrine 0.01mg/kg IV/IO, max 3mg

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Pediatric Altered Level of Consciousness

Applies to patients who are disoriented, weak, dizzy, confused, agitated, exhibit bizarre behavior, have had a syncopal episode, or are unconscious.

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - assure patency and proper positioning
    - Consider SMR if evidence of trauma
  - Assess breathing - give O_2 as tolerated by mask or blow-by
    - Assist with BVM if ineffective respiratory effort
  - Assess circulation - manage shock appropriately
  - Assess disability - assess LOC
  - Exposure/environment - undress the child as appropriate
  - **Altered LOC and signs of poor perfusion could indicate shock and should be managed appropriately.**

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - ALS Initiate cardiac monitoring
  - Physical exam and OPQRST/SAMPLE history
- Advanced airway/ventilatory management as needed
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
- Perform blood glucose analysis – treat If BGA is less than 60mg/dl
  - If patient is able to protect and maintain own airway, administer oral glucose 7.5g PO
  - If patient is not able to protect own airway, give dextrose IV/IO
    - < 6mo: 5ml/kg of D10W IV/IO,
    - 6mo-2yrs: 2ml/kg of D25W IV/IO
    - > 2yrs: 1ml/kg of D50W IV/IO
  - ALS If IV/IO cannot be established: give Glucagon 0.1 mg/kg IM or IN
- Consider toxic exposure or ingestion: contact Medical Control and/or the Georgia Poison Center at 1-800-222-1222

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Communication with medical control

CONTINUED ON NEXT PAGE

Pediatric Altered LOC (Continued).

ALS If patient shows continued respiratory depression, consider administration of naloxone 0.01 mg/kg IV/IO slowly or IN
- If no clinical improvement, 0.1mg/kg, max 2mg
- Titrate naloxone administration to patient's respirations

ALS Contact Medical Control for possible orders if patient appears agitated or violent.

AEIOU TIPPS: Possible Causes of Altered Mental Status	
A: alcohol	**T: trauma**
E: electrolytes	**I: infection**
I: insulin (hypoglycemia)	**P: poison**
O: opiates	**P: psychogenic**
U: uremia	**S: seizure; shock**

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Pediatric Cold Related Emergencies

Applies to patient's having a body temperature below 95°F (35°C) secondary to environmental exposure.

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - use least invasive means possible to secure airway
    ALS Intubate only if necessary, as gently as possible
  - Assess breathing - if signs of compromise, give O_2 as tolerated
    - Assist with BVM if apnea or ineffective respiratory effort
  - Assess circulation - check for pulse, if no pulse begin CPR

  It may be necessary to assess pulse and respirations for up to 30-45 seconds to confirm arrest.
    - If no pulse, initiate CPR and {AED/Defibrillator} using most current American Heart Association guidelines
      - If ***severe*** hypothermia (<86°F/30°C)is strongly suspected, limit defibrillation attempts to 1 and ***withhold*** medications
      - If body temperature is >86°F (30°C), treat in accordance with *Pulseless Arrest* guideline
      - Resuscitation efforts should continue until core temperature approaches normal.
    - If pulse present, ***Do Not*** initiate CPR if there is any pulse present, no matter how slow
      - Treat bradycardia only if patient is hypotensive
  - Assess disability - assess LOC
  - Exposure/environment - ***carefully*** move patient to warm environment, remove all wet clothing, dry the patient, and cover with blankets

- Avoid any rough movement that may cause cardiac dysrhythmias. It may be beneficial to immobilize the patient on the backboard
- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present

  ALS Initiate cardiac monitoring
  - Physical exam and OPQRST/SAMPLE history
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
- Apply warm-packs to groin, axilla, neck and chest

CONTINUED ON NEXT PAGE

Pediatric Cold Related Emergencies (Continued)

- Protect injured, frostbitten areas, do not rub or place on heated surface
  - Remove clothing and jewelry from injured parts
  - Do not attempt to thaw injured part with local heat
  - Severe frostbite injuries should be transported to a trauma center

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Communication with medical control

ALS Consider morphine ***or*** fentanyl for pain relief when the patient is conscious, alert, is not hypotensive, and is complaining of severe pain
  - See *Pain Management* guideline

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Pediatric Fever

Applies to patients with a body temperature of 100.4°F (38°C) or greater. Fever may be associated with seizures, hallucinations, and other forms of altered mental status. The febrile patient may be dehydrated.

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - assure patency and proper positioning
  - Assess breathing - give O_2 as tolerated by mask or blow-by
    - Assist with BVM if ineffective respiratory effort
  - Assess circulation - manage shock appropriately
  - Assess disability - assess LOC
  - Exposure/environment - undress the child as appropriate

Altered LOC and signs of poor perfusion could indicate shock and should be managed appropriately.

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - ALS Initiate cardiac monitoring
  - Perform blood glucose analysis – treat If BGA is less than 60mg/dl
  - Physical exam and OPQRST/SAMPLE history
    - Document history of fever and record temperature (forehead, ear, or tympanic membrane - if available)
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock, dehydration, hypotension, and/or sepsis
- If high grade fever (103°F or 39.5°C), initiate gradual cooling
  - Remove excessive clothing
  - Consider placing moistened towels in axilla and groin
  - **Do Not** use ice or rubbing alcohol to cool
  - Avoid rapid cooling, **Do Not** allow patient to shiver
- Administer acetaminophen 15mg/kg PO if >4 hours since last antipyretic

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Communication with medical control

- Prepare for seizures, see *Seizure* guideline for management of seizures

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Pediatric Heat Related Emergencies

Applies to patients with fatigue or altered level of consciousness secondary to environmental heat exposure.

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - assure patency and proper positioning
  - Assess breathing - give O_2 as tolerated by mask or blow-by
    - Assist with BVM if ineffective respiratory effort
  - Assess circulation - manage shock appropriately
  - Assess disability - assess LOC
  - Exposure/environment - remove the patient from the environment
    - Undress the child as appropriate

Altered LOC and signs of poor perfusion could indicate shock and should be managed appropriately.

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - ALS Initiate cardiac monitoring
  - Perform blood glucose analysis - treat If BGA is less than 60mg/dl
  - Physical exam and OPQRST/SAMPLE history
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock, dehydration, and/or hypotension
- If conscious and not vomiting or extremely nauseous provide oral fluids
- If heat stroke suspected, active cooling with cold packs, water, and fan

Signs/symptoms of heat stroke may include: hot, dry skin (25% of patients will still be moist), seizures, altered mental status, dilated pupils, rapid heart rate, or arrhythmia.

STOP
Contact Medical Control or refer to local protocol.

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Communication with medical control

- Prepare for seizures, see *Seizure* guideline for management of seizures.

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Pediatric Nausea/Vomiting

Applies to patients presenting with prolonged vomiting, or those actively vomiting after EMS arrival with no other symptoms or complaints present. Assess any acute abdominal pain prior to resolving nausea/vomiting.

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - have suction ready
  - Assess breathing - if signs of compromise, give O_2 as tolerated
  - Assess circulation - manage shock appropriately
  - Assess disability - assess LOC
  - Exposure/environment - undress the child as appropriate

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present
  - **ALS** Consider cardiac monitoring
  - Physical exam and OPQRST/SAMPLE history
- Keep the patient NPO
- Consider IV normal saline KVO rate
  - If fluid resuscitation is needed, 20ml/kg bolus IV/IO normal saline

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST
- Cardiac monitor
- Treatment
- Communication with medical control

ALS Ondansetron 0.1mg/kg IV/IO slowly or IM/IN/ODT, max 4mg

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Pediatric Respiratory Distress

Applies to patients presenting with inadequate ventilation or oxygenation; which may include increased or decreased respirations, cyanosis, nasal flaring, grunting, retractions, absent or diminished breath sounds, or decreased responsiveness

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - assure patency and proper positioning
  - Assess breathing - give O_2 as tolerated by mask or blow-by
    - assist with BVM if ineffective respiratory effort
  - Assess circulation - manage shock appropriately
  - Assess disability - assess LOC
  - Exposure/environment - undress the child as appropriate

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Auscultate breath sounds
  - Apply capnography (if available)
  - ALS Initiate cardiac monitoring
  - Physical exam and OPQRST/SAMPLE history

If fever is present with any respiratory signs or symptoms or if the patient is coughing, sneezing or generating airborne droplets, a HEPA mask should be worn by EMS personnel to avoid transmission of infection.

- Consider IV normal saline KVO rate
- If wheezing or capnography indicates bronchospasm
  - Nebulize albuterol* - 2.5mg <15kg, 5mg>15kg
- If stridor and history and exam suggestive of croup
  - ALS Nebulize epinephrine 1:1000 - 2.5ml (in 3ml saline) <15kg, 5ml >15kg
- If laryngeal edema, obstruction or history and exam suggestive of epiglottitis
  - Removal techniques if FBAO
  - ALS Needle cricothyrotomy (if BVM and/or non invasive procedures ineffective)

Sign/symptoms of croup may include: ≤ 4 years old, low grade fever, inspiratory stridor, hoarseness, bark-like cough, recent URI.

Sign/symptoms of epiglottitis may include: ≥ 3 years old, high grade fever, stridor, drooling, sore throat, dsyphagia, rapid onset of distress.

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*Other bronchodilators may be utilized if authorized by Medical Control or local agency protocol.

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Pediatric Respiratory Distress (Continued)

ALS **Advanced airway placement if decreased level of consciousness with respiratory failure or poor ventilatory effort (with hypoxia unresponsive to supplemental O2 at 100%) or unable to maintain patent airway.**

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Communication with medical control

- Additional doses of albuterol* q 5-10 min, or continuous

ALS Consider CPAP (if available)

IMPORTANT

- **Patients must be alert and able to maintain their own airway for CPAP.**
  - **With CPAP, most patients will improve in 5-10 minutes. If no improvement within this time consider ventilation with a BVM.**
  - **Indications for CPAP are constantly broadening. Local medical directors may authorize additional indications for CPAP.**
  - **Local medical directors may also authorize the use of steroids, magnesium sulfate for the management of respiratory distress.**

*Other bronchodilators may be utilized if authorized by Medical Control or local agency protocol.

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Pediatric Seizure

Applies to patients actively seizing or those that have a history of seizures prior to EMS arrival.

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - have suction ready
  - Assess breathing - give O_2 as tolerated by mask or blow-by
    - Assist with BVM if ineffective respiratory effort
  - Assess circulation - manage shock appropriately
  - Assess disability - assess LOC
  - Exposure/environment - undress the child as appropriate

Altered LOC and signs of poor perfusion could indicate shock and should be managed appropriately.

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present

ALS Consider cardiac monitoring

  - Physical exam and OPQRST/SAMPLE history
    - Obtain description of seizure activity - duration and severity
    - Note any history of illness or trauma

ALS Advanced airway/ventilatory management as needed

- Initiate IV normal saline KVO rate
  - If fluid resuscitation is needed, 20ml/kg bolus IV/IO normal saline
- If evidence of fever, initiate gradual cooling, remove excessive clothing
  - Consider placing moistened towels in axilla and groin
  - **Do Not** use ice or rubbing alcohol to cool
  - Avoid rapid cooling, **Do Not** allow patient to shiver

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST
- Cardiac monitor
- Treatment
- Communication with medical control

ALS If the patient is actively seizing
  - Midazolam* 0.2 mg/kg IV/IO slowly or IM/IN, max 10mg

*Other benzodiazepines may be utilized if authorized by Medical Control or local agency protocol.

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Pediatric Sickle Cell Crisis

Applies to patients presenting with sickle cell crisis. The typical sickle cell EMS call in children is severe pain in the abdomen, chest, or joints, and/or difficulty breathing with hypoxia. Many of these patients are dehydrated.

- First Impression
  - Appearance
  - Breathing
  - Circulation

↓

- Primary Survey
  - Assure airway - assure patency and proper positioning
  - Assess breathing - give O_2 as tolerated by mask or blow-by to maintain SpO2 ≥ 94%
    - Assist with BVM if ineffective respiratory effort
  - Assess circulation - manage shock appropriately
  - Assess disability - assess LOC
  - Exposure/environment - undress the child as appropriate

↓

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - **ALS** Initiate cardiac monitoring
  - OPQRST/SAMPLE history
  - Physical exam
- Keep the patient NPO
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
- Comfort measures, such as support for painful joints.
- Assess the patient's pain
  - Ages 3-8 years - use Wong-Baker FACES scale (below)
  - Ages 8-18 years - use numerical scale

↓

STOP
Contact Medical Control or refer to local protocol. Orders may include:

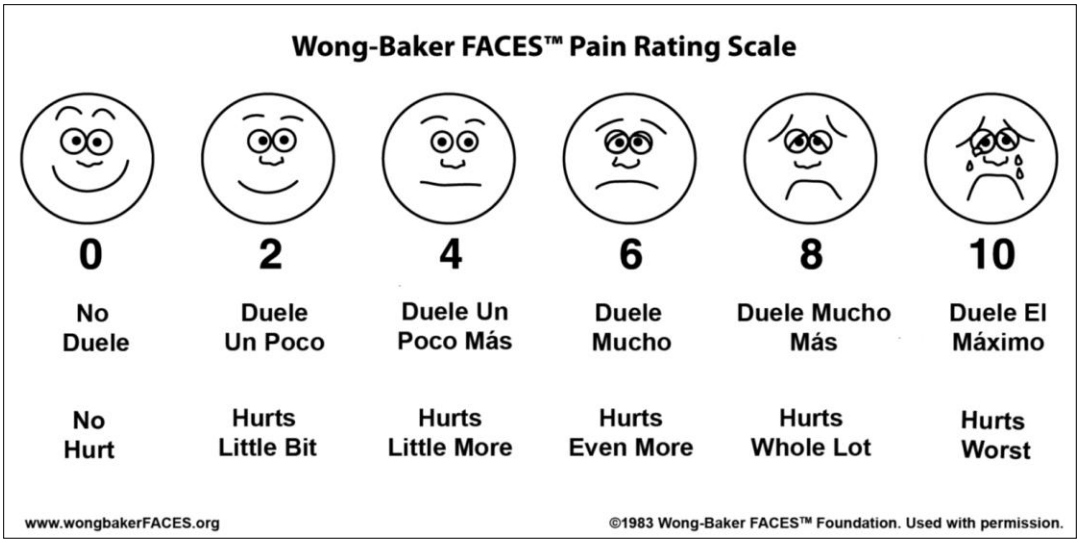
↓

CONTINUED ON NEXT PAGE

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Pain scale
- Communication with medical control

Pediatric Sickle Cell Crisis (Continued)

- If pain scale ≥ 6, consider morphine ***or*** fentanyl
  - ALS Morphine - 0.1mg/kg IV/IO slowly or IM up to a 4 mg max
  - ALS Fentanyl - 1mcg/kg IV/IO slowly or IN up to a 75 mcg max
- **After intervention, reassess mental status, pain level, and signs of respiratory depression every 5 minutes.**
- If respirations become depressed, consult Medical Control for possible naloxone order
- If patient becomes nauseated or vomits, consider administering ondansetron IV/IM/ODT 0.1 mg/kg , max 4 mg



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Pediatric Toxic Exposure

Applies to patients with toxic exposure secondary to the ingestion, inhalation, contact or intravenous administration of a potentially toxic substance.

- Scene Safety and Initial Management
  - **Prevent exposure of EMS personnel! Assess and assure scene security prior to proceeding with guideline.**
  - If toxic environment, have patient moved to safety by appropriately trained personnel using proper level PPE
  - If signs of hazardous materials incident, call for HazMat team, keep patient(s) isolated in contaminated zone until HazMat team arrives
    - Coordinate efforts with HazMat personnel
  - Identify agent and mechanism/route of exposure (inhaled, contact, etc.)
  - Decontaminate as appropriate - EMS personnel must be wearing PPE prior to helping with the decontamination process

- Primary Survey
  - Assure airway - have suction ready, keep the patient NPO
  - Assess breathing - if signs of compromise, give O_2 as tolerated
    - Assist with BVM if ineffective respiratory effort
  - Assess circulation - manage shock appropriately
  - Assess disability - assess LOC
  - Exposure/environment - take measures to prevent hypothermia, especially following decontamination

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - **Pulse oximetry may not be accurate for toxic inhalation victims**
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Initiate cardiac monitoring
  - Physical exam and OPQRST/SAMPLE history
    - Identify substance/toxin and amount of exposure
    - Determine mechanism, time, and duration of exposure
    - If ingestion, see *Toxic Ingestion* guideline
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock

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Pediatric Toxic Exposure (Continued)

- If known or suspected carbon monoxide poisoning
  - Provide 100% O_2, if not yet initiated
  - Monitor carbon monoxide saturation (if CO-oximetry is available)
  - Consult Medical Control for destination choice, including consideration of medical facilities equipped with a hyperbaric capability
- If organophosphate, carbamate, or nerve agent poisoning,
  - **ALS** Administer atropine 0.02 mg/kg IV/IO or IM every 3-5 minutes, titrate to clinical symtoms (drying of secretions)
  - Contact Georgia Poison Control 404-230-8989 for consultation and/or Chempack deployment. See *Chempack* in resources
- If patient is asymptomatic, monitor for delayed affects

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- Agent/mechanism of exposure
- Cardiac rhythm
- Treatment
- Communication with medical control

All suspected suicide attempts must be reported before leaving the scene.

EMS personnel may contact Poison Control directly. EMS personnel are directed to follow the advice offered by the Poison Control Center as if it came directly from Medical Control. Georgia Poison Control: 1-800-222-1222.

Frequently reassess patient, manage any presenting respiratory distress, seizures, and/or dysrhythmia's in accordance with appropriate guideline.

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Pediatric Toxic Ingestion

Applies to patients with an acute overdose and/or toxic ingestion.

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - have suction ready, keep the patient NPO
  - Assess breathing - if signs of compromise, give O_2 as tolerated
    - Assist with BVM if ineffective respiratory effort
  - Assess circulation - manage shock appropriately
  - Assess disability - assess LOC
  - Exposure/environment - undress the child as appropriate

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present
  - **ALS** Consider cardiac monitoring
  - Physical exam and OPQRST/SAMPLE history
    - Identify substance/toxin and amount of exposure
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Communication with medical control

- If calcium-channel blocker or beta-blocker overdose
  - **ALS** Glucagon 0.025-0.1mg/kg IV/IO slowly or IM/IN, max 1mg
- If narcotic overdose
  - **ALS** Naloxone 0.01 mg/kg IV/IO slowly or IN
    - If no clinical improvement, 0.1mg/kg, max 2mg
    - Titrate naloxone administration to patient's respirations
- If tricyclic antidepressants overdose with wide complex tachycardia
  - **ALS** Sodium Bicarbonate 1mEq/kg IV/IO slowly

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Pediatric Toxic Ingestion (Continued)

- If a stimulant/hallucinogen overdose (cocaine, amphetamine, ecstasy, etc.)
  - ALS Midazolam* 0.2mg/kg slowly IV/IO or IM/IN, max 10mg
  - Cool patient passively but do not allow patient to shiver
- If patient is asymptomatic, monitor for delayed affects

Frequently reassess patient, manage any presenting respiratory distress, seizures, and/or dysrhythmia's in accordance with appropriate guideline.

All suspected suicide attempts must be reported before leaving the scene.

EMS personnel may contact Poison Control directly. EMS personnel are directed to follow the advice offered by the Poison Control Center as if it came directly from Medical Control. Georgia Poison Control: 1-800-222-1222.

*Other benzodiazepines may be utilized if authorized by Medical Control or local agency protocol.

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Pediatric Multiple System Trauma

Applies to patients presenting with injury to more than one body system,

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - assure patency, manually stabilize C-spine
  - Assess breathing - give O_2 as tolerated by mask or blow-by
    - Assist with BVM if ineffective respiratory effort
    - Manage any injuries impairing ventilation
  - Assess circulation - assess pulses and perfusion status
    - Control major bleeding and manage shock appropriately
  - Assess disability - assess LOC, note any disability
  - Exposure/environment - undress the child as appropriate
    - Take measures to prevent hypothermia

- Secondary Assessment and History
  - Physical exam and OPQRST/SAMPLE history
    - Expose and rapidly assess the head, chest, abdomen, pelvis and extremities for injury (evaluate patient's posterior when possible)
  - Monitor vital signs and oxygen saturation, determine GCS
  - Administer prehospital care and resuscitate as needed
  - Perform SMR, apply a rigid c-collar and secure to LSB
- Initiate patient transport as soon as possible

ALS Advanced airway/ventilatory management as needed

- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
- Revaluate ABCs and perform detailed/focused assessment of the head, neck, chest, abdomen, pelvis, and extremities x4 and repeat neuro exam
  - Perform blood glucose analysis - treat hypoglycemia if present

ALS Consider cardiac monitoring

- Continue resuscitation and evaluation enroute

STOP
Contact Medical Control or refer to local protocol.

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac monitor
- Treatment
- Communication with medical control

- Manage any presenting respiratory distress, seizures, and/or dysrhythmia's in accordance with appropriate guideline.
- Consider transport to a trauma center (see *CDC Field Triage* in resources)

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Pediatric Head and Spine Injuries

Applies to patients presenting with injuries to the head or spine.

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - assure patency, manually stabilize C-spine
    - Have suction ready
  - Assess breathing - give O_2, maintain $SaO_2 \geq 95\%$
    - Assist with BVM if ineffective respiratory effort
  - **Maintain normal ventilation rate if providing PPV, hyperventilation should be avoided unless signs of cerebral herniation**
  - Assess circulation - assess pulses and perfusion status
    - Control major bleeding and manage shock appropriately
  - Assess disability - assess LOC, note any disability
  - Exposure/environment - undress the child as appropriate
    - Take measures to prevent hypothermia
    - Consider possibility of non-accidental trauma

- Secondary Assessment and History
  - Physical exam and OPQRST/SAMPLE history
    - Perform rapid trauma exam
    - Determine GCS, assess pupillary size and reaction
  - Monitor vital signs and oxygen saturation
  - Evaluate and treat other trauma
  - Perform SMR, apply a rigid c-collar and secure to LSB
- Initiate patient transport as soon as possible

ALS Advanced airway/ventilatory management as needed
  - Initiate $ETCO_2$ monitoring (if available)
    - Maintain normal ventilation rate ($ETCO_2$ 35-40 mmHg)
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
- Perform a detailed assessment of the patient
  - Revaluate ABCs, perform a detailed/focused physical assessment
  - Repeat neuro exam
  - Perform blood glucose analysis - treat hypoglycemia if present

ALS Initiate cardiac monitoring

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Pediatric Head and Spine Injuries (Continued)

Frequently reassess for clinical signs of cerebral herniation: dilated and unreactive pupils, asymmetric pupils, extensor posturing or no motor response, decrease GCS > 2 points in patients with an initial GCS < 9.

- Hyperventilation therapy titrated to clinical effect may be necessary for ***brief*** periods in cases of cerebral herniation or acute neurologic deterioration
  - Hyperventilation is administered as:
    - 25 breaths per minute in a child
    - 30 breaths per minute in an infant less than 1 year old
    - Maintain ETCO of 30-35 mmHg (if $ETCO_2$ monitoring is available)

Children with TBI are likely to exhibit post-traumatic seizures

- Manage any presenting seizures in accordance with *Seizure* guideline

STOP
Contact Medical Control or refer to local protocol.

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac monitor
- Treatment
- Communication with medical control

- If patient presents with bradycardia secondary to increased ICP or neurogenic shock, consult with Medical Control regarding management
- Consider transport to a trauma center (see *CDC Field Triage* in resources)

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Pediatric Eye Trauma

Applies to patients with blunt or penetrating trauma to the eye or who have chemical substances in the eye.

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - initiate SMR if needed
  - Assess breathing - initiate O_2 administration if needed
  - Assess circulation - control bleeding and manage shock appropriately
  - Assess disability - assess LOC, note any disability
  - Exposure/environment

- Secondary Assessment and History
  - Physical exam and OPQRST/SAMPLE history
    - Establish the mechanism and nature of injury
  - **Assess vision, if possible, with injured eye: can the patient count the number of fingers you hold up; if not, can the patient perceive light**
    - Never apply pressure to the eyeball
  - Monitor vital signs and oxygen saturation
- If the eye has been avulsed or if the globe has been ruptured,
  - Carefully cover the injured eye to protect it
  - Prevent conjugated eye movements - also cover the uninjured eye
  - **Do Not** apply any pressure; **Do Not** apply absorbent dressing
- If a foreign body is embedded in the eye,
  - Do not attempt to remove the object
  - Do attempt to stabilize the object.
  - Carefully cover both eyes
- If eyes are injured by chemical exposure, pepper spray or mace:
  - Responders should protect themselves with appropriate PPE
  - Remove victim from source of exposure
  - Remove contaminated clothing and sealed in plastic bags
  - Irrigate eyes with copious amounts of water or normal saline

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST
- Cardiac monitor
- Treatment
- Communication with medical control

- Transport patient with head elevated about 30 degrees, and BOTH eyes closed or loosely patched (unless irrigating)

ALS For pain, contact medical control or see *Pain Management* guideline

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Pediatric Chest Trauma

Applies to patients presenting with chest trauma.

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - assure patency, manually stabilize C-spine
  - Assess breathing - give O_2 as tolerated by mask or blow-by
    - Assist with BVM if ineffective respiratory effort
    - Manage any injuries impairing ventilation
  - Assess circulation - assess pulses and perfusion status
    - Control major bleeding and manage shock appropriately
  - Assess disability - assess LOC, note any disability
  - Exposure/environment - undress the child as appropriate
    - Take measures to prevent hypothermia

If at any time during the primary survey or secondary assessment the following chest injuries are identified, treat immediately

  - For **penetrating trauma** or **sucking chest wound**
    - Seal initially with a glove hand
    - Apply occlusive dressing, tape on (3) sides
    - Monitor for tension pneumothorax
  - For **flail segment –** rare in children
    - Stabilize with bulky dressing
      - gentle pressure, **Do not impair ventilation**
    - Provided positive pressure ventilation as needed
  - **Tension pneumothorax**

ALS Perform needle decompression on affected side

- Secondary Assessment and History
  - Physical exam and OPQRST/SAMPLE history
    - Perform rapid trauma exam
    - Examine the chest for bruising, abrasions, instability, crepitus, and/or open wounds
    - Auscultate breath sounds and heart tones
  - Monitor vital signs and oxygen saturation, determine GCS
  - Administer prehospital care and resuscitate as needed
  - Perform SMR, apply a rigid c-collar and secure to LSB
- Initiate patient transport as soon as possible
- Advanced airway/ventilatory management as needed

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Pediatric Chest Trauma

- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
- Revaluate ABCs and perform detailed/focused assessment of the head, neck, chest, abdomen, pelvis, and extremities x4 and repeat neuro exam
  - Frequently reevaluate patients respiratory and perfusion status
  - Auscultate breath sounds
  - Apply capnography (if available)
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Initiate cardiac monitoring - treat dysrhythmia's in accordance with appropriate guideline
- Continue resuscitation and evaluation enroute

STOP
Contact Medical Control or refer to local protocol.

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac monitor
- Treatment
- Communication with medical control

- Consider transport to a trauma center (see *CDC Field Triage* in resources)

IMPORTANT - NEEDLE CHEST DECOMPRESSION

Indications: Peri-arrest or PEA; shock, with hypotension; and at least **one** of the following:
- Neck vein distention
- Tracheal deviation away from the injured side
- Increased resistance when ventilating
- Hyper-expanded chest with little movement with respiration

Needle chest decompression should never be utilized based solely on the presence of poor or absent breath sounds on one side of the chest. The procedure has complications, and should not be used lightly. However, when used appropriately, it can be life-saving.

CAUTION: Overly aggressive PPV may cause a pneumothorax or exacerbate an existing pneumothorax.

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Pediatric Abdominal and Pelvic Trauma

Applies to patients presenting with injury to abdomen and/or pelvis.

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - assure patency, manually stabilize C-spine
  - Assess breathing - give O_2 as tolerated by mask or blow-by
    - Assist with BVM if ineffective respiratory effort
  - Assess circulation - assess pulses and perfusion status
    - Control major bleeding and manage shock appropriately
  - Assess disability - assess LOC, note any disability
  - Exposure/environment - undress the child as appropriate
    - Take measures to prevent hypothermia

- Secondary Assessment and History
  - Physical exam and OPQRST/SAMPLE history
    - Perform rapid trauma exam.
    - Note any abdominal rigidity, distention, tenderness, etc
    - Note any pelvic instability
    - Monitor vital signs and oxygen saturation, determine GCS
  - For **evisceration** - do not attempt to replace protruding organs
    - Apply a moistened sterile dressing directly to the site
    - Cover this dressing with an occlusive dressing
    - Place patient on their back, with legs flexed at the knees, to reduce pain by relaxing the strain on the abdominal muscles
  - For impaled objects - do not remove an impaled object
    - Carefully cut away any clothing that is around the object
    - Manually stabilize object - avoid applying pressure to the object
    - Use bulky dressings and cravats to stabilize object
    - Minimize patient movement

  If impaled object removed before your arrival, try to bring it with you.
  - Perform SMR, apply a rigid c-collar and secure to LSB
- Initiate patient transport as soon as possible

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Pediatric Abdominal and Pelvic Trauma

ALS Advanced airway/ventilatory management as needed

- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
- Revaluate ABCs and perform detailed/focused assessment of the head, neck, chest, abdomen, pelvis, and extremities x4 and repeat neuro exam
  - Perform blood glucose analysis - treat hypoglycemia if present
  - **ALS** Consider cardiac monitoring
- Continue resuscitation and evaluation enroute

STOP
Contact Medical Control or refer to local protocol.

Document:

- Vital signs
- OPQRST/SAMPLE
- Cardiac monitor
- Treatment
- Communication with medical control

- Consider transport to a trauma center (see *CDC Field Triage* in resources)

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Pediatric Extremity Trauma

Applies to patients presenting with extremity trauma.

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - initiate SMR if needed
  - Assess breathing - give O_2 as tolerated by mask or blow-by
  - Assess circulation - control bleeding and manage shock appropriately
    - Direct pressure is usually sufficient
    - Tourniquet may applied as last resort
  - Assess disability - assess LOC, note any disability
  - Exposure/environment

- Secondary Assessment and History
  - Physical exam and OPQRST/SAMPLE history
    - Establish the mechanism and nature of injury
  - Monitor vital signs and oxygen saturation
  - For fractures or dislocation
    - Assess distal pulse, motor and sensation before/after splinting and during transport
    - If open fractures, control bleeding and cover with dry, sterile dressing.
    - If the extremity is severely angulated **AND** pulses are absent, apply gentle traction in an attempt to straighten it
    - Otherwise if pulses are present or if resistance is encountered, splint the extremity in the angulated position
    - Apply appropriate splinting device
    - To reduce swelling, elevate extremity and apply cold pack
  - For amputation - if located initiate care for amputated part
    - Remove gross contaminants by rinsing with saline
    - Wrap in saline moistened gauze and place in plastic bag or container (sterile, if available)
    - Seal the bag or container tightly and place in solution of ice water, if available
    - Transport part to the hospital regardless of the condition
    - If the part cannot be immediately located, transport the patient and have other field providers search for and transport the part as soon as possible
- Initiate patient transport as soon as possible

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Pediatric Extremity Trauma

- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
- Revaluate patient's ABCs and perform a detailed/focused assessment

ALS Consider cardiac monitoring

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- Neurovascular status of extremity before and after management
- Cardiac monitor
- Treatment
- Communication with medical control

ALS For pain, contact medical control or see *Pain Management* guideline

- Consider transport to a trauma center (see *CDC Field Triage* in resources)

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Pediatric Trauma Arrest

Applies to trauma patients with absent vital signs. Patients with injuries incompatible with life are covered under the *Withholding or Termination of Resuscitation* Guideline.

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assess for signs of life
  - Initiate spinal motion restriction
  - Begin high quality CPR and restrict interruptions of compressions as much as possible
  - Assure airway/ventilatory support - a blind insertion airway device (BIAD) or a supra-glottic airway (SGA) may be inserted early, otherwise ventilate with a BVM and 100% oxygen
  - **ALS** Do not attempt insertion of a tracheal tube for the first five minutes of the resuscitation attempt, except in the presence of stridor
  - Ventilate with 100% oxygen only until the chest rises at a rate of 6-8 per minute (do not over-ventilate)
  - Control life-threatening bleeding

Airway management, bleeding control and rapid transport are the most important interventions for victims of traumatic arrest. Minimize scene time to 10 minutes or less, barring extrication time), and perform only critical interventions before transport.

- Secondary Assessment and History
  - Attempt to obtain OPQRST /SAMPLE History, if relevant, prior to transport
  - Begin transport as soon as possible. Minimize scene time
  - Continue guideline en route
  - Move as rapidly and safely as possible toward an appropriate facility
  - Initiate cardiac monitoring
    - Manage dysrhythmias per appropriate guideline
  - Initiate $ETCO_2$ monitoring (if available)

ALS Advanced airway/ventilatory management as needed

- Continue with compressions until return of adequate pulses
- Establish IV/IO access using normal saline with rapid infusion and monitor for the return of a palpable pulse. If a pulse is restored, titrate the infusion rate to a blood pressure of 80-90 systolic

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Pediatric Trauma Arrest (Continued)

ALS If mechanism of injury, symptoms, and physical exam suggests a tension pneumothorax, consider needle decompression on the affected side(s)

STOP
Contact Medical Control or refer to local protocol.

Document:
- Mechanisms of injury
- ROSC/Vital sign changes if relevant
- Cardiac rhythm(s)
- Treatment
  - advanced airway procedures w/ $ETCO_2$ (if available)
  - medications administrated
- Available History
- Communication with medical control

- Transport decisions must be determined by the local EMS agency, due to many local and regional variations of resources
- Contact Medical Control with patient status and treatment as soon as possible

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Pediatric Burns

Applies to patients who have sustained thermal, chemical or electrical bums and/or have sustained inhalation injuries. Hypotension is not normally seen with prehospital burn patients. Hypotension suggests other trauma. Refer to the trauma guidelines as needed.

- Assure scene safety
- Remove from burning process if possible (only if properly trained)
- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - be prepared to aggressively manage the airway
  - Assess breathing - give O_2 as tolerated to maintain SpO2 ≥ 94%
  - Assess circulation - manage bleeding and shock appropriately
  - Assess disability - assess LOC
  - Exposure/environment - Cover with dry sterile dressing, children are more susceptible to hypothermia, so medic cabin must be warmed

Look closely for evidence of inhalation injury (hoarseness, stridor, sooty sputum, facial burns, or singed nasal or facial hair). Aggressive airway management may be warranted.

Burn victims may have suffered carbon monoxide poisoning and may show a false reading on the pulse oximeter.

- Initial Burn Management
  - Initiate spinal movement restrictions, as needed
    - If no suspicion of spinal injury, place the patient in position of comfort.
    - If evidence of shock, place the patient supine and monitor airway closely. Treat shock according to the *Shock* guideline
  - Remove and secure any jewelry, belts, shoes, etc. from burned areas.
  - Remove burned or singed clothing not stuck to the skin
  - Initiate care for burn wounds
    - Chemical injury - brush off chemical, flush with water to remove any residual chemical
    - Electrical injury - treat dysrhythmias per appropriate guideline
    - Thermal injury - dry sterile dressings
  - Begin transport as soon as possible
    - If no other trauma mechanism, consider transport to burn center
    - If trauma mechanism exists, consider transport to a trauma center
    - Transport patients with an **unmanageable airway** or **uncontrolled hemorrhage** to the closest hospital emergency department

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Pediatric Burns (Continued)

ALS Advanced airway/ventilatory management as needed

- Secondary Assessment and History
  - Record and monitor vital signs, oxygen saturation, and CO-
  - Monitor carbon monoxide saturation (if CO-oximetry is available)
  - **ALS** Initiate cardiac monitoring
  - Assess
    - Possible carbon monoxide poisoning
    - Heat inhalation injury/airway
    - Approximate burn size, depth, and location
    - Other injuries and illnesses
  - Initiate IV/IO normal saline - see below
    - Do not delay transport for IV access

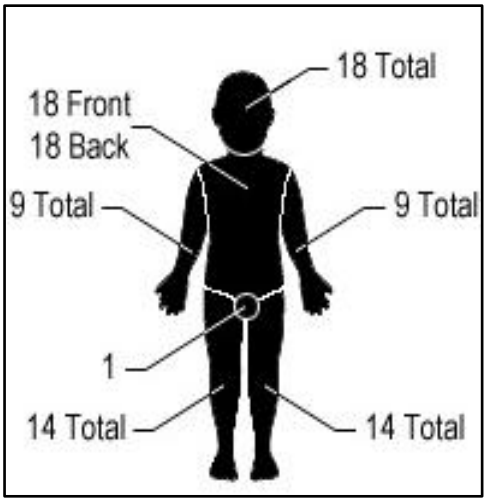
STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- Burn type, location, size, and depth
- Cardiac rhythm
- Treatment
- Communication with medical control

ALS For pain management, see *Pain Management* guideline

Initial Fluid Resuscitation

- If patient presents with shock
  - Initiate IV/IO of NS 20ml/kg bolus
- Otherwise, administer fluid infusion
  - 125ml/hr NS for patients < 5 yrs
  - Or 250ml/hr for patients 5-13 yrs
  - Or 500ml/hr for patients >14 yrs
- Once the patients wt. in kilograms and percent second and third degree burn is calculated, consult Medical Control or utilize Burn Fluid Resuscitation Formula



To calculate body surface area involved, use Rule of Nines or estimate using the patient's palm size as approximately 1% of BSA

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Pediatric Snakebite

Special Note: Safety of rescue personnel is top priority! Assure scene safety and determine location of snake. Do not transport snake. (A picture will suffice.) DEAD SNAKES ARE STILL DANGEROUS!

- First Impression
  - Appearance
  - Breathing
  - Circulation

- Primary Survey
  - Assure airway - assure patency and proper positioning
  - Assess breathing - give O_2 as tolerated by mask or blow-by
    - Assist with BVM if ineffective respiratory effort
  - Assess circulation - manage shock appropriately
  - Assess disability - assess LOC
  - Exposure/environment - undress the child as appropriate

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Consider cardiac monitoring
  - Physical exam and OPQRST/SAMPLE history
    - Assess for swelling, skin color changes, shock
  - **Mark on skin the leading edge of swelling and erythema and record time, repeat if leading edge progression.**
    - If able, safely determine type, size, and length of snake

ALS Advanced airway/ventilatory management as needed

- Place patient in position of comfort. Minimize movement and exertion
- Do not place bitten extremity in an elevated or lowered position
- Clean wound - apply light dressing , unless wound is bleeding profusely
  - No ice, no constricting bands, no cutting
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock

STOP
Contact Medical Control or refer to local protocol.

Document:
- Vital signs
- OPQRST
- Cardiac monitor
- Treatment
- Communication with medical control

- Frequently reassess patient, manage any presenting respiratory distress, seizures, and/or dysrhythmia's in accordance with appropriate guideline
- Contact Medical Control for pain management

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Pediatric Submersion Event

Applies to any patient that has been submerged under water for any period of time.

Special Note: Safety of rescue personnel is top priority! Enter water only if trained and as a last resort.

- First Impression
  - Appearance
  - Breathing
  - Circulation

↓

- Primary Survey
  - Assure airway - assure patency and proper positioning
    - Consider SMR if evidence of trauma
  - Assess breathing - give O_2 as tolerated by mask or blow-by
    - Assist with BVM if ineffective respiratory effort
  - Assess circulation - manage shock appropriately
  - Assess disability - assess LOC
  - Exposure/environment - take measures to prevent hypothermia
    - Remove wet clothes
    - Cover and warm the patient

↓

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Consider cardiac monitoring
  - Physical exam and OPQRST/SAMPLE history
- ALS Advanced airway/ventilatory management as needed
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
- If patient is hypothermic, refer to *Cold Related Emergencies* guideline

↓

STOP
Contact Medical Control or refer to local protocol.

↓

Document:
- Vital signs
- OPQRST
- Cardiac monitor
- Treatment
- Communication with medical control

ALL SUBMERSION VICTIMS SHOULD BE TRANSPORTED EVEN IF THEY APPEAR UNINJURED OR APPEAR TO HAVE RECOVERED.

Adult Clinical Guidelines

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Adult Guidelines

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Adult Assessment

- Primary Survey
  - Assess LOC - determine responsiveness, utilize AVPU scale
  - Assure airway - assess airway patency
    - Open, clear, and maintain airway
    - Simultaneously initiate SMR if indicated
  - Assess breathing - assess rate and quality of breathing
    - Assure adequate ventilation
    - Initiate appropriate oxygen therapy
  - Assess circulation - assess pulses and perfusion status
    - Control major bleeding
    - Manage shock appropriately

Perform necessary interventions for all identified life-threats and determine patient priority.

Initiate Secondary Assessment and History

If new life threats identified, treat immediately!

Trauma

If primary survey is abnormal, minimize scene time. Perform only necessary interventions, such as SMR, initial airway management, BVM ventilation, and control of major bleeding, in the field.

- Continue SMR support as indicated. If no spinal injury is suspected, place the patient in position of comfort
- Initiate basic care for specific injuries
- Perform physical examination
  - Expose and examine any potentially injured area.
  - Take measures to prevent hypothermia
- Monitor vital signs and SpO2
- ALS Consider cardiac monitoring
- Consider ETCO2 monitoring (If available)
- If indicated, perform blood glucose analysis
- Obtain OPQRST/SAMPLE history
  - Onset
  - Provocation
  - Quality
  - Region, Radiation
  - Severity
  - Time
  - Signs, Symptoms
  - Allergies
  - Medications
  - PPMHx
  - Last Oral Intake
  - Events proceeding illness or injury
- Perform ongoing assessment
  - Repeat primary survey and vital signs
  - Evaluate response to treatment
  - Repeat physical exam

Medical

If patient is unresponsive or has a diminished LOC, perform a rapid head-to-toe examination to rule out presence of trauma and identify medically significant physical findings.

- Obtain OPQRST/SAMPLE history
  - Onset
  - Provocation
  - Quality
  - Region, Radiation
  - Severity
  - Time
  - Signs, Symptoms
  - Allergies
  - Medications
  - PPMHx
  - Last Oral Intake
  - Events proceeding illness or injury
- Perform physical examination
- Monitor vital signs and SpO2
- ALS Place patient on cardiac monitor
- ALS Consider 12-lead ECG (if available)
- Consider ETCO2 monitoring (If available)
- Perform blood glucose analysis
- Perform ongoing assessment
  - Repeat primary survey and vital signs
  - Evaluate response to treatment
  - Repeat physical exam

Document:

- Vital signs
- OPQRST/SAMPLE
- Environment observations
- Treatment
- Communication with medical control

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Pain Management

Applies to patients suffering from severe pain or discomfort, including from isolated extremity injuries, musculoskeletal or soft tissue injuries, flank pain due to suspected kidney stone, sickle cell crisis, burns, and other causes.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - Have suction ready
    - Consider SMR if evidence of trauma
  - Assess breathing - give supplemental O_2 if signs of compromise or $SpO_2 < 94\%$
  - Assess circulation - manage bleeding and/or shock appropriately

- Secondary Assessment and History
  - Place the patient in position of comfort and minimize patient exertion
    - If hypotensive, place supine, treat according to *Shock* guideline
  - Monitor vital signs and oxygen saturation
  - Initiate $ETCO_2$ monitoring (if available)
  - ALS Cardiac monitor - record and evaluate 12-lead ECG (if available)
  - OPQRST/SAMPLE history
  - Physical Exam
- Place patient in position of comfort
- Immobilize any obvious injuries
  - Elevate injured extremities, if possible
  - Consider application of a cold pack
- Keep the patient NPO
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock

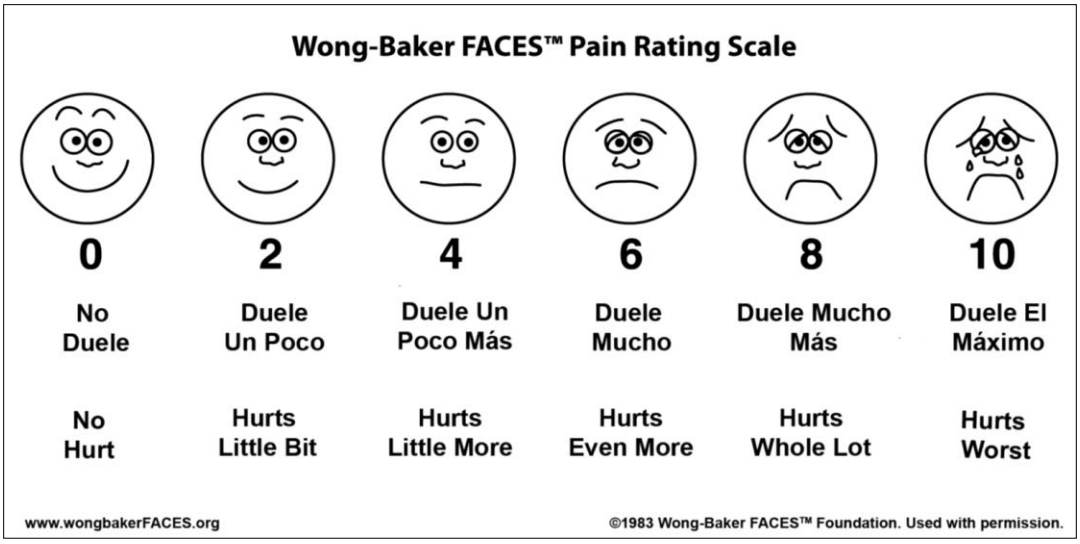
STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Pain scale
- Communication with medical control

CONTINUED ON NEXT PAGE

Pain Management (Continued)

- Assess the patient's pain
  - Use numerical scale or Wong-Baker FACES scale (below)
- Consider administration of morphine ***or*** fentanyl
  - ALS ALS Morphine - 2 mg increments IV/IO slowly
    - Titrate administration to pain relief
  - Fentanyl - 25-100 mcg IV/IO slowly or IN
    - Titrate administration to pain relief
- **After intervention, reassess mental status, pain level, blood pressure and signs of respiratory depression every 5 minutes.**
- If respirations become depressed, consult Medical Control for possible naloxone order
- If patient becomes nauseated or vomits, consult Medical Control



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Shock Management

Applies to patients presenting with signs and symptoms consistent with shock.
All forms of shock are associated with inadequate tissue perfusion.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - Assure patency and proper positioning
    - Consider SMR if evidence of trauma
  - Assess breathing - Assist with BVM if ineffective respiratory effort
    - Give supplemental O_2 if signs of compromise or $SpO_2 < 94\%$
  - Assess circulation - Control bleeding if present
    - Take measures to prevent hypothermia

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Initiate cardiac monitoring - treat dysrhythmias per appropriate guideline
  - Initiate $ETCO_2$ monitoring (If available)
  - OPQRST/SAMPLE history
  - Physical exam
- Keep the patient NPO
- ALS Advanced airway/ventilatory management as needed
- Initiate IV/IO
  - For hypovolemic shock, administer normal saline 20ml/kg
  - For cardiogenic shock, administer normal saline at KVO rate
  - For all other types of shock, administer normal saline 20ml/kg
  - Fluid boluses may be repeated x 1 - titrate to clinical effect
- Attempt to identify cause and treat in accordance with appropriate guideline (tension pneumothorax, overdose, trauma, etc.)
- Initiate patient transport as soon as possible
- Continue resuscitation and evaluation enroute - frequently revaluate ABCs and mental status

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Communication with medical control

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Shock Management (Continued)

- If patient deteriorates or fails to improve, Medical Control may authorize the following
  - For hypovolemic shock, administer additional 20ml/kg NS bolus
  - For cardiogenic shock, assure rate and rhythm have been treated
    ALS Consider dopamine drip 2-20 mcg/kg/minute - titrate to clinical effect
  - For all other types of shock, administer normal saline 20ml/kg

Dopamine Infusion: Standard 1600mcg/ml Concentration

Weight		Milliliters hour or drops per minute with micro drip tubing (60gtt/ml)										
lbs	kg	2 mcg/kg/hr	3 mcg/kg/hr	4 mcg/kg/hr	5 mcg/kg/hr	6 mcg/kg/hr	7 mcg/kg/hr	8 mcg/kg/hr	9 mcg/kg/hr	10 mcg/kg/hr	15 mcg/kg/hr	20 mcg/kg/hr
77	35	3	4	5	7	8	9	10	11	13	20	26
88	40	3	5	6	8	9	11	12	14	15	23	30
99	45	3	5	7	8	10	12	14	15	17	25	34
110	50	4	6	8	9	11	13	15	17	19	28	38
121	55	4	6	8	10	12	14	17	19	21	31	41
132	60	5	7	9	11	14	16	18	20	23	34	45
143	65	5	7	10	12	15	17	20	22	24	37	49
154	70	5	8	11	13	16	18	21	24	26	39	53
165	75	6	8	11	14	17	20	23	25	28	42	56
176	80	6	9	12	15	18	21	24	27	30	45	60
187	85	6	10	13	16	19	22	26	29	32	48	64
198	90	7	10	14	17	20	24	27	30	34	51	68
209	95	7	11	14	18	21	25	29	32	36	53	71
220	100	8	11	15	19	23	26	30	34	38	56	75
231	105	8	12	16	20	24	28	32	35	39	59	79
242	110	8	12	17	21	25	29	33	37	41	62	83
253	115	9	13	17	22	26	30	35	39	43	65	86

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Bradycardia

Applies to patients with a heart rate < 60 beats per minute. This guideline is not intended for patients with bradycardia secondary to increased intracranial pressure.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - assure patency and proper positioning
  - Assess breathing - give supplemental O_2 if signs of compromise or SpO_2 < 94%
  - Assess circulation - peripheral pulses, CRT, skin color/temp

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present
  - **ALS** Cardiac monitor - record and evaluate 12 Lead ECG (if available)
    - Do not delay therapy for 12 lead acquisition
  - Consider ETCO2 monitoring (if available)
  - Physical exam and OPQRST/SAMPLE history
- Initiate IV/IO normal saline - KVO
  - 2nd IV line can be established, if time permits
- If patient is asymptomatic (i.e. No hypotension, AMS, DIB, signs of shock, ischemic chest discomfort, or acute heart failure), monitor and transport.
- If signs of cardiopulmonary compromise,
  - **ALS** If IV/IO access is quickly achieved, administer Atropine 0.5-1mg
    - May repeat every 3-5 min, max 3mg
  - **ALS** If IV/IO access is delayed **OR** the bradycardia is second-degree type II (fixed PR interval) or third-degree heart block **OR** if atropine is ineffective , consider transcutaneous pacing (TCP)
    - **ALS** If conscious, consider administration of midazolam 1-2.5mg IV/IO slowly or IN prior to pacing **(Caution: Monitor Respirations)**

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- Pertinent assessment findings
- Onset/duration of event
- Treatment
- Communication with medical control

ALS If no response, Initiate a dopamine IV infusion 2-20 mcg/kg/min

OR

ALS Initiate an epinephrine IV infusion 2-10mcg/min

*Other benzodiazepines may be utilized if authorized by Medical Control or local agency protocol.

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Tachycardia

Applies to patients who present with a palpable pulse rate > 150.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - assure patency and proper positioning
  - Assess breathing - give supplemental O_2 if signs of compromise or SpO_2 < 94%
  - Assess circulation - peripheral pulses, CRT, skin color/temp

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Cardiac monitor - record and evaluate 12 Lead ECG (if available)
    - Do not delay therapy for 12 lead acquisition
  - Consider ETCO2 monitoring (if available)
  - Physical exam and OPQRST/SAMPLE history
- Initiate IV/IO normal saline - KVO
  - 2nd IV line can be established, if time permits
- Advanced airway/ventilatory management as needed
- **Attempt to rule out sinus tachycardia as a potential cause of the symptoms. 220 minus the patient's age is the upper limit of sinus tach.**
- If sinus tachycardia, search for and treat causes - hypovolemia, dehydration, etc.
- **For narrow-complex tachycardia:**
  - If no hypotension, acute AMS, signs of shock, ischemic chest discomfort, and/or acute heart failure
    - ALS If narrow-complex, attempt Valsava and other vagal maneuvers
    - ALS If regular, consider adenosine IV/IO
      - 1st Dose 6mg, administer rapidly followed by 20 ml NS flush
      - 2nd Dose 12mg (if required)
  - If signs of cardiopulmonary compromise,
    - ALS If IV/IO access is quickly achieved, administer adenosine IV/IO
      - 1st Dose 6mg, administer rapidly followed by 20 ml NS flush
      - 2nd Dose 12mg (if required)

    OR

    - ALS Perform immediate synchronized cardioversion
    - ALS If conscious, consider administration of midazolam 1-2.5mg IV/IO slowly or IN prior to cardioversion **(Monitor Respirations)**

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*Other benzodiazepines may be utilized if authorized by Medical Control or local agency protocol.

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Tachycardia (Continued)

- **For wide- complex tachycardia (≥0.12 sec)**
  - If no hypotension, acute AMS, signs of shock, ischemic chest discomfort, and/or acute heart failure
    - **ALS** If regular **and** monomorphic consider adenosine IV/IO
      - 1st Dose 6mg, administer rapidly followed by 20 ml NS flush
      - 2nd Dose 12mg (if required)
  - If signs of cardiopulmonary compromise,
    - **ALS** Perform immediate synchronized cardioversion
    - **ALS** If conscious, consider administration of midazolam* 1-2.5mg IV/IO slowly or IN prior to cardioversion **(Monitor Respirations)**
- If at any time a cardiac rhythm other than tachycardia is noted, treat based on the appropriate guideline

STOP
Contact Medical Control or refer to local protocol.

Document:
- Vital signs
- History
- Cardiac rhythm
- Treatment
- Communication with medical control

- If tachycardia persist despite synchronized cardioversion and/or adenosine administration,
  - **ALS** If narrow complex tachycardia, consider additional anti-dysrhythmics as per Medical Control
  - **ALS** If wide-complex tachycardia, consider amiodarone** 150mg IV/IO over 10 minutes - may repeat dose once
    - Consider following with maintenance infusion at 1mg/min
  - **ALS** If polymorphic, wide-complex tachycardia (torsades), consider (if available) magnesium sulfate 1-2g in 100ml D5W over 5 to 60 minutes IV - Titrate to control torsades

Synchronized Cardioversion: Recommended doses	
Narrow regular	50-100 joules
Narrow irregular	120-200 joules biphasic, 200 joules monophasic
Wide regular	100 joules

Note: Wide irregular rhythms utilize the defibrillation dose (not synchronized).

*Other benzodiazepines may be utilized if authorized by Medical Control or local agency protocol.
** Lidocaine may be utilized if authorized by Medical Control or local agency protocol.

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Pulseless Arrest

- Resuscitation
  - Assess patient for respiratory and cardiac arrest
  - Initiate CPR and {AED/Defibrillator} using most current American Heart Association guidelines
  - Provide high-quality compressions, minimizing interruptions
  - Compressions should be at a rate of about 100-120 per minute
  - Ventilate with BVM and 100% oxygen, consider OPA/NPA
  - Consider advanced airway management
    - Do not delay resuscitation for advanced airway placement
    - If advanced airway is utilized, initiate ETCO2 monitoring

Shockable Rhythm???

YES

VF/ Pulseless VT

- Defibrillate -120-220 joules (biphasic)
  -360 joules (monophasic)
- Resume CPR for 2 minutes
- Initiate IV/IO normal saline
- 1:10,000 epinephrine 1mg IV/IO, repeat every 3-5 minutes
- Consider advanced airway, capnography
- Reassess rhythm every 2 minutes, if rhythm is organized, check pulse
- Defibrillate
- Resume CPR for 2 minutes
- Amiodarone* - 1st Dose 300 mg IV/IO
  - 2nd Dose 150mg IV
- Continue CPR/treatment as indicated
- Consider and treat reversible causes

NO

Asystole/PEA

- Initiate IV/IO normal saline
- 1:10,000 epinephrine 1mg IV/IO, repeat every 3-5 minutes
- Consider advanced airway, capnography
- Reassess rhythm every 2 minutes, If rhythm is organized, check pulse
- Continue CPR/treatment as indicated
- Consider and treat reversible causes
  - Hypovolemia
  - Hypoxia
  - Hydrogen Ion
  - Hypoglycemia
  - Hypokalemia
  - Hyperkalemia
  - Hypothermia
  - Tension Pnuemo
  - Tamponade
  - Toxins
  - Thrombosis

STOP
Contact Medical Control or refer to local protocol.

Document:
- Events preceding arrest
- Code summary
- Treatment
- Contact with Medical Control

- Transport to the closest appropriate facility
- If cardiac rhythm change is noted treat based on the appropriate guideline

* Lidocaine may be utilized if authorized by Medical Control or local agency protocol.

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Post Resuscitation

Applies to patients with history of cardiac arrest and return of spontaneous circulation (ROSC)

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - assure patency and proper positioning
  - Assess breathing - assure airway/ventilatory support
    - Provide 100% oxygen, respiratory rate <12
    - DO NOT Hyperventilate
  - Assess circulation - pulses, CRT, skin color/temp

If patient remains unresponsive, induced hypothermia may be considered if EMS System has a local protocol.

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Cardiac monitor - record and evaluate 12 Lead ECG (if available)
    - Do not delay therapy for 12 lead acquisition
  - Consider ETCO2 monitoring (if available) - ideally >20
  - Physical exam and OPQRST/SAMPLE history
- Initiate IV/IO normal saline - administer 20ml/kg bolus if hypotensive
  - Titrate to >90 systolic BP
  - 2nd IV line can be established, if time permits

ALS If systolic BP < 90, despite normal saline, Initiate a dopamine IV infusion 2-20mcg/kg/min

The condition of post-resuscitation patients fluctuates rapidly and continuously, and they require close monitoring.

- Treat any presenting non-perfusion dysrhythmias in accordance with the Pulseless Arrest guideline

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- Time of ROSC
- Onset/duration of event
- Treatment
- Communication with medical control

ALS Seek medical control consultation for management of any perfusing dysrhythmias that may present

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Left Ventricular Assist Device (LVAD)

Applies to patients who have a left ventricular assist device (LVAD) implanted. A ventricular assist device is a mechanical pump that is used to support heart function and blood flow in people who have weakened hearts.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - have suction ready
  - Assess breathing - give supplemental O_2 if signs of compromise or $SpO_2 \leq 94\%$
  - Assess circulation - manage shock appropriately

In a majority of these patients a pulse will not be palpable. This occurs because the LVAD unloads the ventricle in a continuous fashion. Mental status and skin color are best indicators of oxygenation and perfusion status.

- Secondary Assessment and History
  - Locate emergency contact sheet per patient's hospital/physician
    - Call coordinator if device fails
  - Listen over pump pocket - will hear hum if running
  - Check for specific alarms
    - If alarms show red buttons - critical status
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Cardiac monitor - no pads over pump - don't stop device to assess
  - OPQRST/SAMPLE history - these patients, along with their families, have been well trained in the care of themselves and their devices **LISTEN TO THEM!**
  - Physical exam - assess for evidence of poor perfusion and/or CHF
- Initial LVAD management
  - Check LVAD percutaneous lead connection
  - Make sure driveline and power sources(battery or AC power) are connected to the system controller
  - Change battery if < 2 lights showing - one battery at a time
  - Transport with 4-6 back up batteries and back up control unit
- If in cardiac arrest, **NO CPR**
- Initiate IV/IO normal saline - rate dependent upon perfusion status

STOP
Contact Medical Control or refer to local protocol.

Document:
- Vital signs
- Pertinent assessment findings
- Onset/duration of event
- Treatment
- Communication with medical control

- If signs/symptoms of CHF, withhold fluid bolus and see CHF in the Respiratory Distress guideline
- Transport to an appropriate facility

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Abdominal Discomfort

Applies to patients with pain/discomfort presenting in the abdomen or the flanks with no history or signs of trauma.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - have suction ready
  - Assess breathing - give supplemental O_2 if signs of compromise or $SpO_2 < 94\%$
  - Assess circulation - manage shock appropriately

Altered LOC and signs of poor perfusion could indicate shock and should be managed appropriately.

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Cardiac monitor - record and evaluate 12 Lead ECG (if available)
  - OPQRST/SAMPLE history
    - History of blood in vomit or stool? Prior abdominal surgery? Last meal?
  - Physical exam - assess for signs of dehydration/shock
- Consider possible causes; GI,GU, cardiac, aneurysm, meds/toxic ingestion, pregnancy, etc.
- Save emesis or other drainage for signs of GI bleed, etc.
- Keep the patient NPO
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
  - Titrate to >90 systolic BP

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Communication with medical control

ALS For pain management, contact medical control or see *Pain Management* guideline

ALS If nausea or vomiting present, see *N/V* guideline

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Allergic Reaction/Anaphylaxis

Applies to patients presenting with rash, hives, shortness or breath, or other signs and symptoms, up to and including shock, possibly due to an allergic reaction.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - have suction ready
  - Assess breathing - give supplemental O_2 if signs of compromise or SpO_2 < 94%
  - Assess circulation - manage shock appropriately

If respiratory compromise and/or signs of shock, treat immediately with epinephrine. All EMS provider levels are authorized to utilize epinephrine auto-injectors. (AEMT, CT, and P providers may give 1:1000 Epinephrine SQ or IM.)

- Isolate the patient form the source of allergen, if possible
- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Monitor capnography (if available)
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Initiate cardiac monitoring
  - ALS Record and evaluate 12-lead ECG (if available) - don't delay therapy
  - Physical exam and OPQRST/SAMPLE history

ALS Advanced airway/ventilatory management as needed

- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
- If localized reaction (hives)
  - ALS Diphenhydramine 25-50mg IV slowly or deep IM
- If respiratory distress, along with diphenhydramine
  - ALS 1:1,000 epinephrine 0.3-0.5mg SQ
  - Nebulize albuterol* 2.5-5 mg for bronchospasm
- If anaphylactic shock
  - Do not delay epinephrine administration attempting IV/IO access
  - ALS 1:1,000 epinephrine 0.3 mg - 0.5 mg IM (preferred) or SQ

All levels may repeat 1:000 epinephrine IM/SQ/auto-injector (in accordance with their scope of practice) every 5 minutes as needed.

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Communication with medical control

ALS If no response within 10 min to the IM or SQ epinephrine and fluid bolus, administer 1:10,000 epinephrine 0.1 mg - 0.2 mg IV/IO

*Other bronchodilators may be utilized if authorized by Medical Control or local agency protocol.

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Altered Level of Consciousness

Applies to patients who are disoriented, weak, dizzy, confused, agitated, exhibit bizarre behavior, have had a syncopal episode, or are unconscious.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - Assure patency and proper positioning
    - Consider SMR if evidence of trauma
  - Assess breathing - Assist with BVM if ineffective respiratory effort
    - Give supplemental O_2 if signs of compromise or SpO_2 < 94%
  - Assess circulation - Manage shock appropriately

Altered LOC and signs of poor perfusion could indicate shock and should be managed appropriately.

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - ALS Cardiac monitor - record and evaluate 12 Lead ECG (if available)
  - Physical exam and OPQRST/SAMPLE history
- Consider possible causes - AEIOUTIPS; alcohol, electrolytes, insulin (hypoglycemia), opiates, uremia, trauma, infection, poison, psychogenic, seizure, and/or shock
- Advanced airway/ventilatory management as needed
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
- Perform blood glucose analysis - treat If BGA is less than 60mg/dl
  - If patient is able to protect and maintain own airway, administer oral glucose 15g PO
  - If patient is not able to protect own airway, give D50W 25g IV/IO
  - If IV/IO cannot be established: give Glucagon 1 mg IM or IN
- If overdose or toxic ingestion, treat see *Toxic Ingestion* guideline
- If patient requires restraint, apply soft restraints for crew and patient's protection

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Communication with medical control

ALS If patient shows continued respiratory depression, consider administration of naloxone 0.4 mg IV/IO slowly, may repeat x 2 (titrate to patient's respirations)

ALS If patient appears agitated or violent, and restraints applied, immediately Contact Medical Control for possible medication orders

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Chest Pain

Applies to patients presenting with chest pain/discomfort suspected to be ischemic in nature. This may include classic presentations or anginal equivalents (i.e. epigastric pain, neck or jaw pain, and indigestion).

Contact Medical Control for all pediatric care under this guideline.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - Have suction ready
  - Assess breathing - give supplemental O_2 if signs of compromise or $SpO_2 < 94\%$
  - Assess circulation - manage shock appropriately

- If patient is not allergic, administer aspirin 324 mg (4 baby ASA) by mouth
  - Instruct patient to chew before swallowing
  - Administer regardless of whether ASA was taken prior to EMS arrival
- Secondary Assessment and History
  - Place the patient in position of comfort and minimize patient exertion
    - If hypotensive, place supine, treat according to *Shock* guideline
  - Monitor vital signs and oxygen saturation
  - Initiate $ETCO_2$ monitoring (if available)
  - **ALS** Cardiac monitor - record and evaluate 12-lead ECG (if available)
    - Transmit 12-lead if capabilities are available
    - Monitor continuously until patient is in care of ER/cath lab staff.
    - Treat arrhythmias under the appropriate guideline
  - OPQRST/SAMPLE history
  - Physical Exam
- Consider possible causes; AMI, angina, aneurysm, PE, GI, etc.
- Initiate IV/IO normal saline - KVO
  - 2nd IV line can be established, if time permits

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- 12-lead ECG
- Treatment
- Communication with medical control

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Chest Pain (Continued)

Notify Medical Control if the patient presents with an inferior AMI (ST elevation in leads II, III, and aVF). Both nitroglycerin and opiate administration may cause fatal hypotension in these patients.

ALS Administer nitroglycerin 0.4 mg SL; may repeat every 5 minutes x2 as long as SBP remains above 110mmHg

- If the SBP falls below 110 mmHg in response to nitro therapy:
  - Position patient flat
  - Do not administer additional nitroglycerin
  - Administer 250mL fluid bolus IV, repeat up to a total of 1L (if no pulmonary edema), titrate to keep SBP above 110 mmHg

DO NOT administer nitroglycerin to any patient who has taken an erectile dysfunction medication in the last 24 hours.

ALS Administer morphine sulfate* in 2 mg increments IV push slowly

- Titrate morphine sulfate administration to pain relief and BP
- Medical Control may authorize even when SBP is less than 110mmHg in certain circumstances

ALS If nausea develops,

- Ondansetron 4mg IV/IO slowly or IM/IN/ODT
- Repeat in 15 minutes if no relief to max of 8mg

- Fluid resuscitation
  - Additional fluid boluses for inferior wall MI only (beyond the original 1 liter): 250mL IV reassess between each bolus

ALS If patient presents with cardiogenic shock,

- Assure rate and rhythm have been treated
- If the systolic blood pressure is less than 90mmHg, consider a dopamine infusion at 2-10mcg/kg/min, titrating both to effect

ALS If the chest pain is thought to be stimulant-induced (cocaine, amphetamine, ecstasy) and pulse rate is >120

- Midazolam** 2.5mg slowly IV/IO or IN (contact medical control to repeat 2.5mg)
- Cool patient passively but do not allow patient to shiver

*Other opiates may be utilized if authorized by Medical Control or local agency protocol.

**Other benzodiazepines may be utilized if authorized by Medical Control or local agency protocol.

Childbirth/Labor

Applies to women whose chief complaint is related to labor and /or impending delivery.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - have suction ready
  - Assess breathing - give supplemental O_2 if signs of compromise or SpO_2 <94%
  - Assess circulation - manage shock appropriately

Altered LOC and signs of poor perfusion could indicate shock and should be managed appropriately.

If a patient is unstable, initial resuscitation/stabilization must precede any action specified in this protocol. Resuscitation of the mother is the key to survival of both mother and fetus.

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present

ALS Consider cardiac monitoring

  - OPQRST/SAMPLE, LMP, obstetric, and gynecological history

Determine: how many previous deliveries, due date, onset of contractions, if membranes have ruptured, if bleeding or vaginal discharge present, if patient has urge to push or move bowels, and if pregnancy is high risk.

  - Time contractions - frequency and duration
  - Physical exam - assess for signs of shock
- IV/IO access with normal saline - initiate 20ml/kg normal saline bolus
- If active labor, inspect the perineum for crowning
  - If crowning, apply gentle pressure with your glove hand to the infant's head and prepare for delivery
  - If no crowning, monitor and reassess frequency and duration of contractions
- If feet or buttocks presentation – **DO NOT** pull on Infant
  - Support head and trunk
  - Place your gloved hand inside the vagina and form **V** with first two fingers, place over infant's face -keep vagina wall away infant's face
- If prolapsed cord
  - Place mother in a knee chest position to relieve pressure on the cord
  - Place your gloved hand inside the vagina and push upward on the presenting part to further reduce pressure on the cord
  - Cover the cord with moist sterile dressings and avoid manipulating it

Priority symptoms: Crowning < 36 weeks gestation, prolapsed cord, abnormal presentation, severe vaginal bleeding, multiple gestation or seizure. If noted, expedite transport and notify Medical Control as early as possible.

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Childbirth/Labor (Continued)

- Delivery and Post Delivery Care of· Mother
  - Maintain gentle pressure on the infant's head and allow it to deliver in a controlled gradual manner. *Routine suctioning of the oropharynx and nasal pharynx as soon as the head is delivered is no longer recommended.*
  - Check around the infant's neck for the umbilical cord
  - If the cord has looped around the baby's neck, use your finger to hook the cord and pull it over the baby's head
  - If unable to free the cord, clamp the cord in two places and cut the cord between the clamps
  - Gently direct the infant's head and body downward to deliver the anterior shoulder and support the rest of the body as it delivers
  - Keep the infant at the level of the vagina and use a gauze pad to wipe any secretions around the mouth and nose
  - Vigorously dry the infant and provide warmth (increasing ambient temperature, cover with blanket)
  - If needed, stimulate breathing by flicking the soles of the baby's feet or rubbing the baby's back
  - Clamp the cord at 4 and 6 inches and cut the cord between the clamps.
  - Wrap the blankets in dry, clean towels or blankets
  - Note time of delivery. Obtain APGAR score at 1 and 5 minutes after delivery. **Score ≤ 3: critical. Score ≥ 7: good to excellent**
  - If excessive secretions AND signs of compromise are present, clear airway with bulb syringe

If the newborn fails to respond to initial stimulation and are in need of resuscitation efforts, initiate resuscitation and refer to the *Newborn Resuscitation* guideline.

  - Once the placenta delivers, place it in a clean container and transport it to the hospital with the mother and infant
  - After delivery, keep mother warm and watch for signs of shock.
  - If excessive blood loss, > 500ml - apply abd pad to external vaginal area
    - consider an additional fluid bolus
    - massage the uterus to promote uterine contraction
    - consider allowing mother to breastfeed infant

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- Obstetric history
- Frequency/duration of contractions
- Treatment
- Communication with medical control

- Transport to a facility capable of handling an obstetrical patient

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Cold Related Emergencies

Applies to patient's having a body temperature below 95°F (35°C) secondary to environmental exposure.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - use least invasive means possible to secure airway
    ALS Intubate only if necessary, as gently as possible
  - Assess breathing - Assist with BVM if ineffective respiratory effort
    - Give supplemental O_2 if signs of compromise or SpO_2 < 94%
  - Assess circulation - check for pulse, if no pulse begin CPR

It may be necessary to assess pulse and respirations for up to 30-45 seconds to confirm arrest.

- If no pulse, initiate CPR and {AED/Defibrillator} using most current American Heart Association guidelines
  - If ***severe*** hypothermia (<86°F/30°C)is strongly suspected, limit defibrillation attempts to 1 and ***withhold*** medications
  - If body temperature is >86°F (30°C), treat in accordance with *Pulseless Arrest* guideline
  - Resuscitation efforts should continue until core temperature approaches normal
- If pulse present, ***Do Not*** initiate CPR if there is any pulse present, no matter how slow
  - Treat bradycardia only if patient is hypotensive

- ***Carefully*** move patient to warm environment, remove all wet clothing, dry the patient, and cover with blankets
- Avoid any rough movement that may cause cardiac dysrhythmias. It may be beneficial to immobilize the patient on the backboard
- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present
    ALS Initiate cardiac monitoring
  - Physical exam and OPQRST/SAMPLE history
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
- Apply warm-packs to groin, axilla, neck and chest

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Cold Related Emergencies (Continued)

- Protect injured, frostbitten areas, do not rub or place on heated surface
  - Remove clothing and jewelry from injured parts
  - Do not attempt to thaw injured part with local heat
  - Severe frostbite injuries should be transported to a trauma center

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Communication with medical control

ALS Consider morphine ***or*** fentanyl for pain relief when the patient is conscious, alert, is not hypotensive, and is complaining of severe pain
  - See *Pain Management* guideline

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Heat Related Emergencies

Applies to patients with fatigue or altered level of consciousness secondary to environmental heat exposure.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - Have suction ready
  - Assess breathing - Assist with BVM if ineffective respiratory effort
    - Give supplemental O_2 if signs of compromise or SpO_2 < 94%
  - Assess circulation - Manage shock appropriately
    - Remove the patient from the environment

Altered LOC and signs of poor perfusion could indicate shock and should be managed appropriately

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - ALS Cardiac monitor - record and evaluate 12 Lead ECG (if available)
  - Perform blood glucose analysis - treat If BGA is less than 60mg/dl
  - Physical exam and OPQRST/SAMPLE history
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock, dehydration, and/or hypotension
- If conscious and not vomiting or extremely nauseous provide oral fluids
- If heat stroke suspected, active cooling with cold packs, water, and fan

Signs/symptoms of heat stroke may include: hot, dry skin (25% of patients will still be moist), seizures, altered mental status, dilated pupils, rapid heart rate, or arrhythmia.

STOP
Contact Medical Control or refer to local protocol.

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Communication with medical control

- Prepare for seizures, see *Seizure* guideline for management of seizures

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Acute Hypertensive Crisis

Applies to patients demonstrating an acute, potentially life-threatening elevation of blood pressure with evidence of end-organ perfusion damage.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - have suction ready
  - Assess breathing - give supplemental O_2 if signs of compromise or $SpO_2 < 94\%$
  - Assess circulation - manage shock appropriately

↓

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Cardiac monitor - record and evaluate 12 Lead ECG (if available)
  - OPQRST/SAMPLE history
  - Physical exam - assess for evidence of end-organ perfusion damage (i.e. stroke, ACS/CHF, renal failure)
- **Signs/symptoms may included: elevated BP, headache, dizziness, N/V, blurred vision, dyspnea, pulmonary/peripheral edema, etc.**
- Consider possible causes; chest pain, CHF, overdose, increased ICP, tachycardia
- Initiate IV/IO normal saline - KVO

↓

STOP
Contact Medical Control or refer to local protocol. Orders may include:

↓

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Communication with medical control

ALS If suspected overdose of cocaine or amphetamine use,
- Midazolam* 2.5mg slowly IV/IO or IN (contact medical control to repeat 2.5mg)

Otherwise, DO NOT attempt to lower BP without contact with medical control.

ALS Orders may include:
- Nitroglycerin 0.4mg SL

*Other benzodiazepines may be utilized if authorized by Medical Control or local agency protocol.

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Nausea/Vomiting

Applies to patients presenting with acute onset of nausea and/or vomiting.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - have suction ready
  - Assess breathing - give supplemental O_2 if signs of compromise or $SpO_2 < 94\%$
  - Assess circulation - manage shock appropriately

Altered LOC and signs of poor perfusion could indicate shock and should be managed appropriately

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Cardiac monitor - record and evaluate 12 Lead ECG (if available)
  - OPQRST/SAMPLE history
  - Physical exam - assess for signs of dehydration/shock
- Consider possible causes; GI, GU, cardiac, meds/toxic ingestion, pregnancy, etc.
- Save emesis for signs of GI bleed, etc.
- Keep the patient NPO
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock and or GI bleed are present
  - Titrate to >90 systolic BP

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Communication with medical control

ALS Ondansetron 4mg IV/IO slowly or IM/IN/ODT - repeat in 15 minutes if no relief to max of 8mg

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OB/GYN Emergencies

Applies to women whose chief complaint is related to pregnancy, impending delivery, or 1st month postpartum, or whose chief complaint is gynecological.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - have suction ready
  - Assess breathing - give supplemental O_2 if signs of compromise or $SpO_2 < 94\%$
  - Assess circulation - manage shock appropriately
- **Altered LOC and signs of poor perfusion could indicate shock and should be managed appropriately.**
- **If a patient is unstable, initial resuscitation/stabilization must precede any action specified in this protocol. Resuscitation of the mother is the key to survival of both mother and fetus.**

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Cardiac monitor - record and evaluate 12 Lead ECG (if available)
  - OPQRST/SAMPLE, LMP, obstetric, and gynecological history
  - Physical exam - assess for signs of shock
- Consider possible causes; ruptured ectopic pregnancy, spontaneous abortion, placenta abruption, trauma, abnormal menstrual flow, etc.
- Place the pregnant patient in position of comfort, EXCEPT for a third trimester patient, who should be transported on her left side
- Keep the patient NPO
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
  - Titrate to maintain BP > 90 systolic
- If bleeding, apply abd pad to external vaginal area
- Bring any products of conception to the hospital

STOP
Contact Medical Control or refer to local protocol.

Document:
- Vital signs
- History
- Cardiac rhythm
- Treatment
- Communication with medical control

- If bleeding, seizure, or premature labor is present or pregnancy is high-risk, contact Medical Control as early as possible
- Transport to a facility capable of handling a complicated obstetrical emergency

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Respiratory Distress

Applies to patients presenting with difficulty in breathing with no history or signs of trauma.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - have suction ready
  - Assess breathing - give supplemental O_2 10-15lpm via non-rebreather. If known COPD, start 2-6 lpm via nasal cannula and increase as required - Be prepared to ventilate
  - Assess circulation - manage shock appropriately

- Secondary Assessment and History
  - Record and monitor vital signs and oxygen saturation
  - Monitor capnography (if available)
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Cardiac monitor - record and evaluate 12 Lead ECG (if available)
  - OPQRST/SAMPLE history
  - Physical exam
- **If patient is coughing, apply surgical mask to the patient (if tolerated) and providers should don N95 masks**
- Consider possible causes; anaphylaxis, pulmonary edema, COPD, asthma, TB etc.

Pulmonary Edema

- Reassure/calm patient
- Assist the patient in to a semi-sitting or sitting position
- IV NS KVO rate
- ALS Administer nitroglycerin 0.4mg SL if SBP ≥ 110
- Apply CPAP (if available)

COPD

- Reassure/calm patient
- Allow patient to assume position of comfort
- Assist patient in taking their own bronchodilators
- IV NS KVO rate
- Nebulize albuterol* 2.5-5mg
- Apply CPAP (if available)

Asthma

- Reassure/calm patient
- Allow patient to assume position of comfort
- Assist patient in taking their own bronchodilators
- Consider humidified O_2
- IV NS KVO rate
- Nebulize albuterol* 2.5-5mg

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*Other bronchodilators may be utilized if authorized by Medical Control or local agency protocol.

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Respiratory Distress (Continued)

ALS **If inadequate ventilatory effort, assist ventilations and consider advanced airway placement.**

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Communication with medical control

CHF	COPD	Asthma
• If wheezing, nebulize albuterol* 2.5-5mg	• Nebulize additional bronchodilators as per Medical Control	**ALS** If status asthmaticus, 1:1,000 epinephrine 0.3-0.5mg SQ • Nebulize additional bronchodilators as per Medical Control

IMPORTANT
- **Patients must be alert and able to maintain their own airway for CPAP.**
  - **With CPAP, most patients will improve in 5-10 minutes. If no improvement within this time consider ventilation with a BVM.**
  - **Indications for CPAP are constantly broadening. Local medical directors may authorize additional indications for CPAP.**
  - **Local medical directors may also authorize the use of steroids, magnesium sulfate for the management of respiratory distress.**

*Other bronchodilators may be utilized if authorized by Medical Control or local agency protocol.

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Seizure

Applies to patients actively seizing or those that have a history of seizures prior to EMS arrival.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - have suction ready
  - Assess breathing - give supplemental O_2 if signs of compromise or SpO_2 < 94%
  - Assess circulation - manage shock appropriately

Altered LOC and signs of poor perfusion could indicate shock and should be managed appropriately

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present

ALS Initiate cardiac monitoring

ALS Record and evaluate 12-lead ECG (if available) - don't delay therapy

  - Physical exam and OPQRST/SAMPLE history
    - Obtain description of seizure activity - duration and severity
    - Note any history of illness or trauma

ALS Advanced airway/ventilatory management as needed

- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs/history
- Description of seizures
- Cardiac rhythm
- Treatment
- Communication with medical control

ALS If the patient is actively seizing
  - If Midazolam* 2.5mg IV/IO slowly or IM/IN (contact medical control to repeat 2.5mg)

*Other benzodiazepines may be utilized if authorized by Medical Control or local agency protocol.

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Stroke

Applies to patients presenting with full or one sided body weakness, facial droop, difficulty speaking, and altered mental status; occurring separately or in conjunction with each other.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - have suction ready
  - Assess breathing - give supplemental O_2 if signs of compromise or $SpO_2 < 94\%$
  - Assess circulation - manage shock appropriately

- Secondary Assessment and History
  - Record and monitor vital signs and oxygen saturation
    - Do not attempt to lower BP
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Cardiac monitor - record and evaluate12 Lead ECG (if available)
  - OPQRST/SAMPLE history
    - If possible, determine the time patient was last seen normal
    - Obtain the name and contact information of witness
  - Physical exam
  - **Remember F.A.S.T.**
    - **Face:** Check for facial droop
    - **Arms:** Assess for extremity weakness
    - **Speech:** Assess for slurred speech
    - **Time:** Note when the patient was last seen normal
- Rule out stroke mimics such as hypoglycemia, seizures, and head injury
  - *Consult the appropriate guideline for treatment options*
- Reassure and calm the patient
- If no trauma, place patient in a position of comfort or in left lateral position.
- Protect paralyzed extremities
- Limit on-scene times to < 15 minutes.
- IV/IO KVO, avoid primary access in paralyzed extremities

STOP
Contact Medical Control

Document:
- GCS, vital signs, BGA
- OPQRST/SAMPLE
- Cincinnati Stroke Scale
- Treatment
- Communication with medical control
- Time last seen normal

Rapid transport to the closest Stroke Center
(If Stroke Center is not within a reasonable distance, consult Medical Control for destination choice)

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Toxemia

Applies to obstetrical patient experiencing hypertension and /or eclampsia (seizures, swelling/edema, visual hallucination, or coma) activity.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - have suction ready
  - Assess breathing - give supplemental O_2 if signs of compromise or SpO_2 < 94%
  - Assess circulation - manage shock appropriately

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Cardiac monitor - record and evaluate 12 Lead ECG (if available)
  - OPQRST/SAMPLE and obstetric history
  - Physical exam

Signs/symptoms may included: elevated BP, severe headache, dizziness, N/V, blurred vision, dyspnea, edema, etc.

ALS Advanced airway/ventilatory management as needed

- Position patient on left side.
- IV/IO access with normal saline - KVO
- Expedient transport (as gently as possible; no lights or siren)

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs/history
- Description of seizures
- Cardiac rhythm
- Treatment
- Communication with medical control

- For active seizures,
  - ALS Magnesium sulfate 2-4g of 10% solution over 10 minutes IV slowly
  - ALS Midazolam* 2.5mg IV/IO slowly (contact medical control to repeat 2.5mg)
- For SBP > 160 on two readings,
  - ALS Magnesium sulfate 4g over 10 minutes IV
- For SBP > 110 or SBP < 160 not responding to magnesium sulfate, contact medical control

Monitor patient for hypotension, respiratory depression, and heart block when administering mag sulfate and/or benzodiazepines.

*Other benzodiazepines may be utilized if authorized by Medical Control or local agency protocol.

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Toxic Exposure

Applies to patients with toxic exposure secondary to the ingestion, inhalation, contact or intravenous administration of a potentially toxic substance.

- Scene Safety and Initial Management
  - **Prevent exposure of EMS personnel! Assess and assure scene security prior to proceeding with guideline.**
  - If toxic environment, have patient moved to safety by appropriately trained personnel using proper level PPE.
  - If signs of hazardous materials incident, call for HazMat team, keep patient(s) isolated in contaminated zone until HazMat team arrives
    - Coordinate efforts with HazMat personnel
  - Identify agent and mechanism/route of exposure (inhaled, contact, etc.)
  - Decontaminate as appropriate - EMS personnel must be wearing PPE prior to helping with the decontamination process

- Primary Survey
  - Asses LOC - AVPU
  - Assure airway - have suction ready, keep the patient NPO
  - Assess breathing - if signs of compromise, give O_2 as tolerated
    - Assist with BVM if ineffective respiratory effort
  - Assess circulation - manage shock appropriately, take measures to prevent hypothermia, especially following decontamination
  - Assess disability - assess LOC

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - **Pulse oximetry may not be accurate for toxic inhalation victims**
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Initiate cardiac monitoring
  - Physical exam and OPQRST/SAMPLE history
    - Identify substance/toxin and amount of exposure
    - Determine mechanism, time, and duration of exposure
    - If ingestion, see *Toxic Ingestion* guideline
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock

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Toxic Exposure (Continued)

- If known or suspected carbon monoxide poisoning
  - Provide 100% O_2, if not yet initiated
  - Monitor carbon monoxide saturation (if CO-oximetry is available)
  - Consult Medical Control for destination choice, including consideration of medical facilities equipped with a hyperbaric capability
- If organophosphate, carbamate, or nerve agent poisoning,
  - **ALS** Administer atropine 2-5 mg/kg IV/IO or IM every 10-15 minutes, titrate to clinical symptoms (drying of secretions)
  - Contact Georgia Poison Control 1-800-222-1222 for consultation and/or Chempack deployment. See *Chempack* in resources
- If patient is asymptomatic, monitor for delayed affects

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- Agent/mechanism of exposure
- Cardiac rhythm
- Treatment
- Communication with medical control

All suspected suicide attempts must be reported before leaving the scene.

EMS personnel may contact Poison Control directly. EMS personnel are directed to follow the advice offered by the Poison Control Center as if it came directly from Medical Control. Georgia Poison Control: 1-800-222-1222.

- Frequently reassess patient, manage any presenting respiratory distress, seizures, and/or dysrhythmia's in accordance with appropriate guideline

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Toxic Ingestion

Applies to patients with an acute overdose and/or toxic ingestion.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - have suction ready
  - Assess breathing - give supplemental O_2 if signs of compromise or $SpO_2 < 94\%$
  - Assess circulation - manage shock appropriately

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present
  - Initiate cardiac monitoring
  - Physical exam and OPQRST/SAMPLE history
    - Identify substance/toxin and amount of exposure
- Keep the patient NPO
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac rhythm
- Treatment
- Communication with medical control

- If calcium-channel blocker or beta-blocker overdose
  - ALS Glucagon 1mg IV/IO slowly or IM/IN
- If tricyclic antidepressants overdose with wide complex tachycardia
  - ALS Sodium Bicarbonate 1mEq/kg IV/IO slowly
- If narcotic overdose
  - ALS Naloxone 0.4 mg IV/IO slowly or IN, may repeat x 2 (titrated to patient's respirations)
- If a stimulant/hallucinogen overdose(cocaine, amphetamine, ecstasy, etc.)
  - ALS Midazolam* 2.5mg slowly IV/IO or IM/IN (contact medical control to repeat 2.5mg)
  - Cool patient passively but do not allow patient to shiver

All suspected suicide attempts must be reported before leaving the scene.

EMS personnel may contact Poison Control directly for advice on patient management. EMS personnel are directed to follow the advice offered by the Poison Control Center as if it came directly from Medical Control. Georgia Poison Control: 1-800-222-1222.

*Other benzodiazepines may be utilized if authorized by Medical Control or local agency protocol.

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Multiple System Trauma

Applies to patients presenting with injury to more than one body system.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - assure patency, manually stabilize C-spine
  - Assess breathing - give O_2 as tolerated by mask or blow-by
    - Assist with BVM if ineffective respiratory effort
    - Manage any injuries impairing ventilation
  - Assess circulation - assess pulses and perfusion status
    - Control major bleeding and manage shock appropriately
    - Take measures to prevent hypothermia

- Secondary Assessment and History
  - Physical exam and OPQRST/SAMPLE history
    - Expose and rapidly assess the head, chest, abdomen, pelvis and extremities for injury (evaluate patient's posterior when possible)
  - Monitor vital signs and oxygen saturation, determine GCS
  - Administer prehospital care and resuscitate as needed
  - Perform SMR, apply a rigid c-collar and secure to LSB
- Initiate patient transport as soon as possible

ALS Advanced airway/ventilatory management as needed

- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
- Revaluate ABCs and perform detailed/focused assessment of the head, neck, chest, abdomen, pelvis, and extremities x4 and repeat neuro exam
  - Perform blood glucose analysis - treat hypoglycemia if present

ALS Consider cardiac monitoring

- Continue resuscitation and evaluation enroute

STOP
Contact Medical Control or refer to local protocol.

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac monitor
- Treatment
- Communication with medical control

- Manage any presenting respiratory distress, seizures, and/or dysrhythmia's in accordance with appropriate guideline
- Consider transport to a trauma center

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Head and Spine Injuries

Applies to patients presenting with injuries to the head or spine.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - assure patency, manually stabilize C-spine
    - Have suction ready
  - Assess breathing - give O_2, maintain $SaO_2 \geq 95\%$
    - Assist with BVM if ineffective respiratory effort

Maintain normal ventilation rate if providing PPV, hyperventilation should be avoided unless signs of cerebral herniation

  - Assess circulation - assess pulses and perfusion status
    - Control major bleeding and manage shock appropriately
  - Assess disability - assess LOC, note any disability
    - Take measures to prevent hypothermia

- Secondary Assessment and History
  - Physical exam and OPQRST/SAMPLE history
    - Perform rapid trauma exam
    - Determine GCS, assess pupillary size and reaction
  - Monitor vital signs and oxygen saturation

ALS Initiate cardiac monitoring

  - Evaluate and treat other trauma
  - Perform SMR, apply a rigid c-collar and secure to LSB
- Initiate patient transport as soon as possible

ALS Advanced airway/ventilatory management as needed

  - Initiate $ETCO_2$ monitoring (if available)
    - Maintain normal ventilation rate ($ETCO_2$ 35-40 mmHg)
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
  - If TBI, titrate NS to maintain a SBP of at least 110-120mmHg

A single incident of hypotension in an adult with a brain injury may increase the mortality rate by 150%.

- Perform a detailed assessment of the patient
  - Revaluate ABCs, perform a detailed/focused physical assessment
  - Repeat neuro exam
  - Perform blood glucose analysis - treat hypoglycemia if present

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Head and Spine Injuries (Continued)

Frequently reassess for clinical signs of cerebral herniation: dilated and unreactive pupils, asymmetric pupils, extensor posturing or no motor response, decrease GCS > 2 points in patients with an initial GCS < 9.

- Hyperventilation therapy titrated to clinical effect may be necessary for ***brief*** periods in cases of cerebral herniation or acute neurologic deterioration
  - Hyperventilation is administered as:
    - 20 breaths per minute in an adult
    - Maintain ETCO of 30-35 mmHg (if $ETCO_2$ monitoring is available)
- Manage any presenting seizures in accordance with *Seizure* guideline

STOP
Contact Medical Control or refer to local protocol.

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac monitor
- Treatment
- Communication with medical control

- If patient presents with bradycardia secondary to increased ICP or neurogenic shock, consult with Medical Control regarding management
- Consider transport to a trauma center (see *CDC Field Triage* in resources)

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Eye Trauma

Applies to patients with blunt or penetrating trauma to the eye or who have chemical substances in the eye.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - Assure patency and proper positioning
    - Initiate SMR if needed
  - Assess breathing - Give supplemental O_2 if signs of compromise or $SpO_2 < 94\%$
  - Assess circulation - Control bleeding and manage shock appropriately

- Secondary Assessment and History
  - Physical exam and OPQRST/SAMPLE history
    - Establish the mechanism and nature of injury
  - **Assess vision, if possible, with injured eye: can the patient count the number of fingers you hold up; if not, can the patient perceive light**
    - Never apply pressure to the eyeball
  - Monitor vital signs and oxygen saturation
- If the eye has been avulsed or if the globe has been ruptured,
  - Carefully cover the injured eye to protect it
  - Prevent conjugated eye movements - also cover the uninjured eye
  - **Do Not** apply any pressure; **Do Not** apply absorbent dressing
- If a foreign body is embedded in the eye,
  - Do not attempt to remove the object
  - Do attempt to stabilize the object
  - Carefully cover both eyes
- If eyes are injured by chemical exposure, pepper spray or mace:
  - Responders should protect themselves with appropriate PPE
  - Remove victim from source of exposure
  - Remove contaminated clothing and sealed in plastic bags
  - Irrigate eyes with copious amounts of water or normal saline

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- OPQRST
- Cardiac monitor
- Treatment
- Communication with medical control

- Transport patient with head elevated about 30 degrees, and BOTH eyes closed or loosely patched (unless irrigating)

ALS For pain, contact medical control or see *Pain Management* guideline

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Chest Trauma

Applies to patients presenting with chest trauma.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - Assure patency and proper positioning
    - Initiate SMR if needed
  - Assess breathing - Assist with BVM if ineffective respiratory effort
    - Give supplemental O_2 if signs of compromise or $SpO_2 < 94$
    - Manage any injuries impairing ventilation
  - Assess circulation - Assess pulses and perfusion status
    - Control bleeding and manage shock appropriately
    - Direct pressure is usually sufficient
    - Take measures to prevent hypothermia

If at any time during the primary survey or secondary assessment the following chest injuries are identified, treat immediately

- For **penetrating trauma** or **sucking chest wound**
  - Seal initially with a gloved hand
  - Apply occlusive dressing, tape on (3) sides
  - Monitor for tension pneumothorax
- For **flail segment –** rare in children
  - Stabilize with bulky dressing
    - gentle pressure, **Do Not impair ventilation**
  - Provided positive pressure ventilation as needed
- **Tension pneumothorax**

ALS Perform needle decompression on affected side

- Secondary Assessment and History
  - Physical exam and OPQRST/SAMPLE history
    - Perform rapid trauma exam
    - Examine the chest for bruising, abrasions, instability, crepitus, and/or open wounds
    - Auscultate breath sounds and heart tones
  - Monitor vital signs and oxygen saturation, determine GCS

ALS Initiate cardiac monitoring - treat dysrhythmia's in accordance with appropriate guideline.

- Administer prehospital care and resuscitate as needed
- Perform SMR, apply a rigid c-collar and secure to LSB
- Initiate patient transport as soon as possible

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Chest Trauma

- Advanced airway/ventilatory management as needed
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
- Revaluate ABCs and perform detailed/focused assessment of the head, neck, chest, abdomen, pelvis, and extremities x4 and repeat neuro exam
  - Frequently reevaluate patients respiratory and perfusion status
  - Auscultate breath sounds
  - Apply capnography (if available)
  - Perform blood glucose analysis - treat hypoglycemia if present
- Continue resuscitation and evaluation enroute

STOP
Contact Medical Control or refer to local protocol.

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac monitor
- Treatment
- Communication with medical control

- Consider transport to a trauma center (see *CDC Field Triage* in resources)

IMPORTANT - NEEDLE CHEST DECOMPRESSION

Indications: Peri-arrest or PEA; shock, with hypotension; and at least **one** of the following:
- Neck vein distention
- Tracheal deviation away from the injured side
- Increased resistance when ventilating
- Hyper-expanded chest with little movement with respiration

Needle chest decompression should never be utilized based solely on the presence of poor or absent breath sounds on one side of the chest. The procedure has complications, and should not be used lightly. However, when used appropriately, it can be life-saving.

CAUTION: Overly aggressive PPV may cause a pneumothorax or exacerbate an existing pneumothorax.

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Abdominal and Pelvic Trauma

Applies to patients presenting with injury to abdomen and/or pelvis.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - Assure patency and proper positioning
    - Initiate SMR if needed
  - Assess breathing - Assist with BVM if ineffective respiratory effort
    - Give supplemental O_2 if signs of compromise or $SpO_2 < 94\%$
  - Assess circulation - Control bleeding and manage shock appropriately
    - Direct pressure is usually sufficient

- Secondary Assessment and History
  - Physical exam and OPQRST/SAMPLE history
    - Perform rapid trauma exam.
    - Note any abdominal rigidity, distention, tenderness, etc
    - Note any pelvic instability
    - Monitor vital signs and oxygen saturation, determine GCS
  - For **evisceration** - do not attempt to replace protruding organs
    - Apply a moistened sterile dressing directly to the site
    - Cover this dressing with an occlusive dressing
    - Place patient on their back, with legs flexed at the knees, to reduce pain by relaxing the strain on the abdominal muscles
  - For impaled objects - do not remove an impaled object
    - Carefully cut away any clothing that is around the object
    - Manually stabilize object - avoid applying pressure to the object
    - Use bulky dressings and cravats to stabilize object
    - Minimize patient movement

  If impaled object removed before your arrival, try to bring it with you.
  - Perform SMR, apply a rigid c-collar and secure to LSB
- Initiate patient transport as soon as possible

ALS Advanced airway/ventilatory management as needed

- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock

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Abdominal and Pelvic Trauma

- Revaluate ABCs and perform detailed/focused assessment of the head, neck, chest, abdomen, pelvis, and extremities x4 and repeat neuro exam
  - Perform blood glucose analysis - treat hypoglycemia if present
  - ALS Consider cardiac monitoring
- Continue resuscitation and evaluation enroute

STOP
Contact Medical Control or refer to local protocol.

Document:
- Vital signs
- OPQRST/SAMPLE
- Cardiac monitor
- Treatment
- Communication with medical control

- Consider transport to a trauma center (see *CDC Field Triage* in resources)

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Extremity Trauma

Applies to patients presenting with extremity trauma.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - Assure patency and proper positioning
    - Initiate SMR if needed
  - Assess breathing - Assist with BVM if ineffective respiratory effort
    - Give supplemental O_2 if signs of compromise or $SpO_2 < 94\%$
  - Assess circulation - Control bleeding and manage shock appropriately
    - Direct pressure is usually sufficient
    - Tourniquet may applied as last resort

- Secondary Assessment and History
  - Physical exam and OPQRST/SAMPLE history
    - Establish the mechanism and nature of injury
  - Monitor vital signs and oxygen saturation
  - For fractures or dislocation
    - Assess distal, pulse, motor and sensation before/after splinting and during transport
    - If open fractures, control bleeding and cover with dry, sterile dressing.
    - If the extremity is severely angulated **AND** pulses are absent, apply gentle traction in an attempt to straighten it
    - Otherwise if pulses are present or if resistance is encountered, splint the extremity in the angulated position
    - Apply appropriate splinting device
    - To reduce swelling, elevate extremity and apply cold pack
  - For amputation - if located initiate care for amputated part
    - Remove gross contaminants by rinsing with saline
    - Wrap in saline moistened gauze and place in plastic bag or container (sterile, if available)
    - Seal the bag or container tightly and place in solution of ice water, if available
    - Transport part to the hospital regardless of the condition
    - If the part cannot be immediately located, transport the patient and have other field providers search for and transport the part as soon as possible
- Initiate patient transport as soon as possible

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Extremity Trauma

- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
- Revaluate patient's ABCs and perform a detailed/focused assessment

ALS Consider cardiac monitoring

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- Neurovascular status of extremity before and after management
- Cardiac monitor
- Treatment
- Communication with medical control

ALS For pain, contact medical control or see *Pain Management* guideline
- Consider transport to a trauma center (see *CDC Field Triage* in resources)

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Trauma Arrest

Applies to trauma patients with absent vital signs. Patients with injuries incompatible with life are covered under the *Withholding or Termination of Resuscitation* Guideline.

- Primary Survey
  - Assess for signs of life
  - Initiate spinal motion restriction
  - Begin high quality CPR and restrict interruptions of compressions as much as possible
  - Assure airway/ventilatory support - a blind insertion airway device (BIAD) or a supra-glottic airway (SGA) may be inserted early, otherwise ventilate with a BVM and 100% oxygen
  - **ALS** Do not attempt insertion of a tracheal tube for the first five minutes of the resuscitation attempt, except in the presence of stridor
  - Ventilate with 100% oxygen only until the chest rises at a rate of 6-8 per minute (do not over-ventilate)
  - Control life-threatening bleeding

Airway Management, bleeding control and rapid transport are the most important interventions for victims of traumatic arrest. Minimize scene time to 10 minutes or less, barring extrication time), and perform only critical interventions before transport.

- Secondary Assessment and History
  - Attempt to obtain OPQRST /SAMPLE History, if relevant, prior to transport
  - Begin transport as soon as possible. Minimize scene time
  - Continue guideline en route
  - Move as rapidly and safely as possible toward an appropriate facility
  - Initiate cardiac monitoring
    - Manage dysrhythmias per appropriate guideline
  - Initiate $ETCO_2$ monitoring (if available)

ALS Advanced airway/ventilatory management as needed

- Continue with compressions until return of adequate pulses
- Establish IV access using or normal saline with rapid infusion and monitor for the return of a palpable pulse. If a pulse is restored, titrate the infusion rate to a blood pressure of 80-90 systolic

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Trauma Arrest (Continued)

ALS If mechanism of injury, symptoms, and physical exam suggests a tension pneumothorax, consider needle decompression on the affected side(s)

STOP
Contact Medical Control or refer to local protocol.

Document:
- Mechanisms of injury
- ROSC/Vital sign changes if relevant
- Cardiac rhythm(s)
- Treatment
  - advanced airway procedures w/ $ETCO_2$ (if available)
  - medications administrated
- Available History
- Communication with medical control

- Transport decisions must be determined by the local EMS agency, due to many local and regional variations of resources
- Contact Medical Control with patient status and treatment as soon as possible

IMPORTANT - NEEDLE CHEST DECOMPRESSION

Indications: Peri-arrest or PEA; shock, with hypotension; and at least **one** of the following:
- Neck vein distention
- Tracheal deviation away from the injured side
- Increased resistance when ventilating
- Hyper-expanded chest with little movement with respiration

Needle chest decompression should never be utilized based solely on the presence of poor or absent breath sounds on one side of the chest. The procedure has complications, and should not be used lightly. However, when used appropriately, it can be life-saving.

CAUTION: Overly aggressive PPV may cause a pneumothorax or exacerbate an existing pneumothorax.

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Burns

Applies to patients who have sustained thermal, chemical or electrical bums and/or have sustained inhalation injuries. Hypotension is not normally seen with prehospital burn patients. Hypotension suggests other trauma. Refer to the trauma guidelines as needed.

- Assure scene safety
- Remove from burning process if possible (only if properly trained)

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - be prepared to aggressively manage the airway
  - Assess breathing - give supplemental O_2, maintain $SpO_2 \geq 94\%$.
  - Assess circulation - manage bleeding and shock appropriately

Look closely for evidence of inhalation injury (hoarseness, stridor, sooty sputum, facial burns, or singed nasal or facial hair). Aggressive airway management may be warranted.

Burn victims may have suffered carbon monoxide poisoning and may show a false reading on the pulse oximeter.

- Initial Burn Management
  - Initiate spinal movement restrictions, as needed.
    - If no suspicion of spinal injury, place the patient in position of comfort
    - If evidence of shock, place the patient supine and monitor airway closely. Treat shock according to the *Shock* guideline.
  - Remove and secure any jewelry, belts, shoes, etc. from burned areas.
  - Remove burned or singed clothing not stuck to the skin.
  - Prevent hypothermia
  - Initiate care for burn wounds
    - Chemical injury - brush off chemical, flush with water to remove any residual chemical
    - ALS Electrical injury - treat dysrhythmias per appropriate cardiac dysrhythmia guideline
    - Thermal injury - dry sterile dressings
  - Begin transport as soon as possible
    - If no other trauma mechanism, consider transport to burn center
    - If trauma mechanism exists, consider transport to a trauma center
    - Transport patients with an **unmanageable airway**, **uncontrolled hemorrhage, and/or hemodynamic instability** to the closest hospital emergency department

CONTINUED ON NEXT PAGE

Burns (Continued)

ALS Advanced airway/ventilatory management as needed

- Secondary Assessment and History
  - Record and monitor vital signs, oxygen saturation, and CO-
  - Monitor carbon monoxide saturation (if CO-oximetry is available)
  - **ALS** Cardiac monitor - record and evaluate 12 Lead ECG (if available)
  - Assess
    - Possible carbon monoxide poisoning
    - Heat inhalation injury/airway
    - Approximate burn size, depth, and location
    - Other injuries and illnesses
  - Initiate IV/IO normal saline - see below
    - Do not delay transport for IV access

STOP
Contact Medical Control or refer to local protocol. Orders may include:

Document:
- Vital signs
- Burn type, location, size, and depth
- Cardiac rhythm
- Treatment
- Communication with medical control

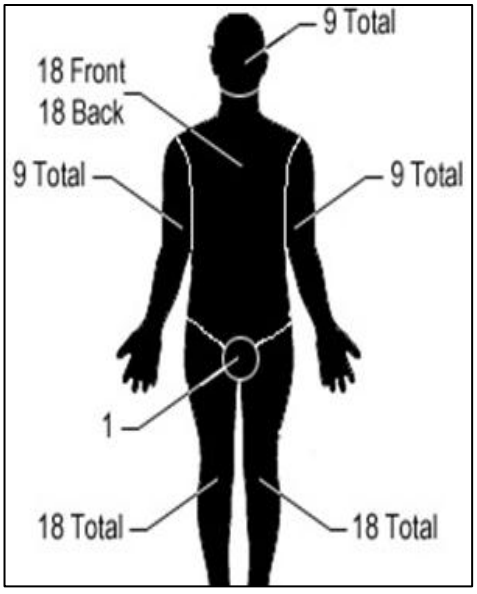
ALS For pain management, see *Pain Management* guideline

Initial Fluid Resuscitation

- If patient presents with shock
  - Initiate IV/IO of NS 20ml/kg bolus
- Otherwise, administer fluid infusion utilizing USAISR Rule of Ten
  - Estimate burn size to the nearest 10
  - For adult patients weighing 40–80 kg, %TBSA × 10 = Initial fluid rate in mL/hr
  - For every 10 kg above 80 kg, increase the rate by 100 mL/h

Do not exceed 1 liter of IV fluids unless authorized by Medical Control.

Contact Medical Control for fluid orders in patients with CHF or cardiac disease.



To calculate body surface area involved, use Rule of Nines or estimate using the patient's palm size as approximately 1% of BSA

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Snakebite

Special Note: Safety of rescue personnel is top priority! Assure scene safety and determine location of snake. Do not transport snake. (A picture will suffice.) DEAD SNAKES ARE STILL DANGEROUS!

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - assure patency and proper positioning
  - Assess breathing - assist with BVM if ineffective respiratory effort
    - Give supplemental O_2 if signs of compromise or $SpO_2 < 94\%$
  - Assess circulation - manage shock appropriately

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present

ALS Consider cardiac monitoring

  - Physical exam and OPQRST/SAMPLE history
    - Assess for swelling, skin color changes, shock

Mark on skin the leading edge of swelling and erythema and record time, repeat if leading edge progression

    - If able, safely determine type, size, and length of snake

ALS Advanced airway/ventilatory management as needed

- Place patient in position of comfort. Minimize movement and exertion
- Do not place bitten extremity in an elevated or lowered position.
- Clean wound - apply light dressing , unless wound is bleeding profusely
  - No ice, no constricting bands, no cutting
- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock

STOP
Contact Medical Control or refer to local protocol.

Document:
- Vital signs
- OPQRST
- Cardiac monitor
- Treatment
- Communication with medical control

- Frequently reassess patient, manage any presenting respiratory distress, seizures, and/or dysrhythmia's in accordance with appropriate guideline
- Contact Medical Control for *Pain Management*

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Submersion Event

Applies to any patient that has been submerged under water for any period of time.

Special Note: Safety of rescue personnel is top priority! Enter water only if trained and as a last resort.

- Primary Survey
  - Assess LOC - AVPU
  - Assure airway - assure patency and proper positioning
    - Consider SMR if evidence of trauma
  - Assess breathing - assist with BVM if ineffective respiratory effort
    - Give supplemental O_2 if signs of compromise or $SpO_2 < 94\%$
  - Assess circulation - manage shock appropriately
    - Take measures to prevent hypothermia - remove wet clothes, cover and warm the patient

↓

- Secondary Assessment and History
  - Monitor vital signs and oxygen saturation
  - Perform blood glucose analysis - treat hypoglycemia if present

ALS Initiate cardiac monitoring

ALS Record and evaluate 12-lead ECG (if available) - don't delay therapy

  - Physical exam and OPQRST/SAMPLE history

ALS Advanced airway/ventilatory management as needed

- Initiate IV/IO normal saline - administer 20ml/kg bolus if signs of shock
- If patient is hypothermic, refer to *Cold Related Emergencies* guideline

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STOP
Contact Medical Control or refer to local protocol.

↓

Document:
- Vital signs
- OPQRST
- Cardiac monitor
- Treatment
- Communication with medical control

ALL SUBMERSION VICTIMS SHOULD BE TRANSPORTED EVEN IF THEY APPEAR UNINJURED OR APPEAR TO HAVE RECOVERED.

Medications

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EMS Drug Formulary

Medications

Medications listed here, and described in this section, include all medications referenced in these clinical guidelines. Each local EMS medical director has the responsibility of approving a formulary 1) consistent with the State scope of practice and 2) appropriate for local EMS resources and needs. Please note that the current scope of practice prohibits use of paralytics to initiate advanced airway management/endotracheal intubation.

Link to scope of practice: http://ems.ga.gov/programs/ems/Procedures/PRO%20P-01%20Scope%20of%20Practice%20for%20EMS%20Personnel/Georgia%20Scope%20of%20Practice%20-%20Effective%207-1-2011%20-%20Updated%207-1-2011%20-%20ALL%20LEVELS%20(no%20EMR).pdf

or go to http://www.ems.ga.gov, click on "Procedures, Forms, Applications & Resource Documents", scroll down to "Practice".

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Acetaminophen (Tylenol®)

Indication: Fever, pain

Adult dose range: 15 mg/kg every 4 hours; max 4g a day

Pediatric dose range: 15 mg/kg every 4 hours

Time to onset: 20 to 30 minutes

Contraindications: Allergy to acetaminophen

How is it given?
- PO/oral

What should be monitored?
- General patient monitoring

Major drug interactions:
- No acute drug interactions

What side effects/potential complications are expected?
- No acute side effects or complications in the emergency setting

Are there any special instructions/considerations?
- Liver infection or liver failure will slow metabolism of acetaminophen
- No acute special considerations

Adenosine (Adenocard®)

Indication: PSVT & undifferentiated regular wide complex tachycardia

Adult dose range: 6 mg; if not effective within 1-2 minutes, 12 mg may be given; may repeat 12 mg bolus if needed

Pediatric dose range: (Given only after orders from Medical Control) 0.1 mg/kg; if not effective administer 0.2 mg/kg. Maximum initial dose: 6mg / Maximum additional single dose: 12 mg

Time to onset: Rapid

Contraindications:
- 2nd or 3rd degree AV block, or sick sinus syndrome, or any bradycardic rhythm (except in patients with pacemaker)
- Known hypersensitivity

How is it given?
- Rapid IV push over 1-2 seconds via peripheral line with at least 20mL NS flush

What should be monitored?
- ECG
- Heart rate
- Blood pressure

Major drug interactions:
- Theophylline and caffeine (may require increased dose of adenosine)
- Dipyridamole (may require reduced dose of adenosine)
- Carbamazepine (may increase heart block)

What side effects/potential complications are expected?
- Facial flushing
- Palpitations
- Chest pain
- Hypotension
- Headache
- Shortness of breath/dyspnea
- Sweating

Are there any special instructions/considerations?
- Use large, proximal vein
- Follow medication immediately with syringe flush of normal saline (not just open line; not fast enough)
- Use two syringe technique if possible
- Consider other arrhythmias such as Atrial Flutter, Atrial Fibrillation, or Ventricular Tachycardia before administering

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Albuterol (Proventil®, ProAir®, Xopenex®)

Indication: Bronchodilator in reversible airway obstruction due to reactive airway disease, asthma, COPD, CHF, anaphylaxis or other respiratory conditions causing bronchospasm.

Adult dose range: 2.5-5 mg as needed. Pre-hospital personnel may assist a patient with self-administration of their MDI.

Pediatric dose range: If less than 15kg- 2.5 mg; if > 15 kg- up to 5mg

Time to onset: 5 to 15 minutes (if inhaled)

Contraindications:
- Hypersensitivity to albuterol
- Adult heart rate above 180 bpm w/o contacting Med Control
- Pediatric heart rate above 220 bpm w/o contacting Med Control

How is it given?
- Via nebulization

What should be monitored?
- Heart rate
- CNS stimulation
- Respiratory status

Major drug interactions:
- Beta blockers (decrease effect)
- MAO inhibitors and TCA's (may increase cardiovascular effects)
- Other sympathomimetic aerosol bronchodilators or epinephrine should not be used concomitantly with Albuterol, including over-the-counter-aerosols.

What side effects/potential complications are expected?
- Tachycardia, palpitations, pounding heartbeat
- GI upset, nausea
- CNS stimulation
- Tremor

Are there any special instructions/considerations?
- Patient may need assistance and coaching with the treatment

Amiodarone (Cordarone®)

Indication: Recurring ventricular fibrillation, pulseless ventricular tachycardia, unstable ventricular tachycardia

Adult dose range:
- V-Fib/pulseless VT: 300 mg rapid IV bolus or IO, repeat dose of 150 mg can be given in 3-5 minutes.
- VTach w/ Pulse : 150mg slow IV/IO over 10 minutes
- Infusion: 150 mg amiodarone in 150 ml of D5W infuse at 1 mg/min

Pediatric dose range:
- Treatment of pulseless VF or VT: 5 mg/kg rapid IV bolus or IO - can repeat ↑2 times
- Treatment of perfusing tachycardias: Loading dose: 5 mg/kg IV over 20-60 minutes or IO

Time to onset: Immediate

Contraindications:
- Hypersensitivity
- Severe sinus node dysfunction
- 2nd and 3rd degree AV block
- Cardiogenic shock
- Relative- Asthma- contact Medical Control
- Sinus bradycardia, except if pacemaker is placed
- Pregnancy

How is it given?
- IV, IO

What should be monitored?
- ECG
- Heart rate

Major drug interactions:
- Beta blockers
- Calcium channel blockers
- Digoxin

What side effects/potential complications are expected?
- Hypotension
- CNS effects
- Myocardial depression
- Nausea/vomiting
- Arrhythmias
- Flushing
- Visual disturbances

Are there any special instructions/considerations?
- Do not give rapid IV push to a patient with a pulse

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Aspirin

Indication: Onset chest pain suggestive of MI signs/symptoms

Adult dose range: 160mg-325mg chewable tablets

Pediatric dose range: Not recommended

Time to onset: 15 to 30 minutes

Contraindications:
- Hypersensitivity to aspirin
- Stomach ulcers
- GI Bleeding

How is it given?
- Orally

What should be monitored?
- Heart rate
- Respiratory Rate

Major drug interactions:
- Blood thinners

What side effects/potential complications are expected?
- GI upset, nausea
- Vomiting
- Wheezing

Are there any special instructions/considerations?
- Do not give large amounts of water to drink, as vomiting may occur
- Relatively contraindicated in persons with asthma

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Atropine

Indication: 1) Bradycardia, per cardiac protocol
2) Symptomatic organophosphate exposure: nerve gas (terrorism) or pesticides (industrial, farming).

Adult dose range:
- Bradycardia: 0.5mg IV/IO bolus every 3-5 minutes as needed, not to exceed total dose of 3 mg
- Organophosphate Poisoning/Nerve Agents: 1-2 mg IV/IO bolus every 5 minutes, until bronchial secretions and bradycardia are controlled.

Pediatric dose range:
- Bradycardia: IV/IO: 0.02 mg/kg bolus; minimum dose is 0.1 mg, maximum single dose is 0.5 mg maximum total dose is 1 mg; for ET dosing: 0.04-0.06mg/kg followed by 5mL flush and 5 ventilations.
- Organophosphate Poisoning/Nerve Agents: 0.02mg/kg IV/IO bolus every 5 minutes until bronchial secretions and bradycardia are controlled.

Time to onset: Immediate

Contraindications:
- Absence of bradycardia
- Absence of signs of organophosphate poisoning

How is it given?
- IV, IO: administer undiluted by IV bolus
- IM: Only if IV is not established
- ET dose at 2-2.5 normal dosing followed by flush and ventilations
- Auto-injector, eg. Mark I kits

What should be monitored?
- Airway secretions
- Heart rate
- Mental status

Major drug interactions:
- Phenothiazines (Promethazine, prochlorperazine)
- Antihistamines

What side effects/potential complications are expected?
- Dry, hot skin and mouth
- Tachycardia
- Urinary retention
- Decreased GI motility

Are there any special instructions/considerations?
- For large-scale exposures to organophosphates/nerve agents, access ChemPack caches - see *ChemPack Fact Sheet* in the *Resources* section of Guidelines, or call Georgia Poison Center directly at 1-800-222-1222.
- ET dosing should only be performed if IV/IO attempts have been made and are unsuccessful.

Dextrose in Water

10%, 25%, 50%

Indication: Hypoglycemia, Hyperkalemia

Adult dose range: $D_{50}W$ - 25-50g IV as needed

Pediatric dose range:
- $D_{10}W$ <6 months- 0.5g/kg (5mL/kg);
- $D_{25}W$ 6 months-2 years- 0.5g/kg (2mL/kg)
- $D_{50}W$ >2 years- 0.5g/kg (1mL/kg)

Time to onset: Immediate

Contraindications:
- None in the emergency setting for hypoglycemic events

How is it given?
- Slow IV bolus
- For pediatric use:
  - Dilute dose with NS in a 1:1 ratio to create 25% ($D_{25}W$)
  - Dilute 2mL $D_{50}W$ in 8mL of NS to create $D_{10}W$

What should be monitored?
- Blood glucose
- Level of consciousness
- IV Site

Major drug interactions:
- No major drug interactions

What side effects/potential complications are expected?
- Hyperglycemia
- Vein irritation
- Cerebral edema in stroke patients

Are there any special instructions/considerations?
- For concentrations above 25%, give by patent peripheral vein, or IO route.
- May cause tissue necrosis
- May precipitate neurologic symptoms in thiamine deficient patients; consider administration of 100mg thiamine IV in malnourished patients
- Use caution in the setting of the following:
  - Acute stroke
  - Diabetic coma and hyperglycemia
  - Delirium tremens in dehydrated patients

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Diazepam (Valium®)

Indication: Seizure activity; excited delirium; acute agitation

Adult dose range: 2.5- 5 mg slow IV/IO, up to a max dose of 10mg.
Contact Medical Control for further doses.

Pediatric dose range: 0.1-0.3mg/kg, slow IV/IO to a max of no more than 5mg for peds <5yrs, and 10mg max for >5yrs. ***Contact Medical Control for advisement on use.***

Time to onset: 1 to 5 minutes, IV

Contraindications:
- Hypersensitivity to diazepam
- Pre-existing CNS depression
- Respiratory depression

How is it given?
- Slow IV push; do not exceed 1-2 mg/minute in children, 5 mg/minute in adults.

What should be monitored?
- Airway
- Level of consciousness
- Heart rate
- Respiratory rate
- Blood pressure

Major drug interactions:
- Any opiates
- Any medication for mood disorder
- Seizure medications
- Antihistamines

What side effects/potential complications are expected?
- Decreased level of consciousness
- Inability to maintain airway
- Respiratory depression/apnea
- Hypotension

Are there any special instructions/considerations?
- Contact Medical Control for patients with:
  - Neurologic disorders
  - Geriatric
  - Pregnancy or lactating patients
- Respiratory depression lasts longer than seizure activity – be prepared to support respirations

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Diphenhydramine (Benadryl®)

Indications: Allergic reaction, anaphylaxis, dystonic reactions

Adult dose range: 25-50 mg/dose PO/IM/IV/IO with max dose of 50mg

Pediatric dose range: 1 mg/kg with max dose of 25mg

Time to onset: 15 to 30 minutes

Contraindications:
- Hypersensitivity to diphenhydramine
- Newborns or infants
- Nursing mothers

How is it given?
- PO, IV, IO, IM; Can be given undiluted at a rate of 25 mg per 1 minute

What should be monitored?
- Pulse Oximetry
- Blood Pressure
- Improvement of symptoms being treated
- Sedation level

Major drug interactions:
- Additive CNS depression with alcohol, sedatives, narcotics

What side effects/potential complications are expected?
- Sedation, dizziness, lightheadedness, altered mental status
- Hypotension, tachycardia
- Blurred vision

Are there any special instructions/considerations?
- For respiratory depressions and signs of shock secondary to anaphylaxis, epinephrine should be administered early and often

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Dopamine (Inotropin)

Indications: Cardiogenic shock; hemodynamically significant hypotension not resulting from hypovolemia; symptomatic bradycardia

Adult dose range: 2-20mcg/kg/min titrated to desired response
- 2-4 mcg/kg/min: Renal Dose
- 5-10 mcg/kg/min: Inotropic Dose
- 10-20 mcg/kg/min: Pressor Dose

Pediatric dose range: 2-20 mcg/kg/min titrated to desired response

Time to onset: Less than 5 minutes

Contraindications:
- Hypersensitivity to sulfites
- Hypovolemic shock
- Tachyarrhythmias
- Ventricular fibrillation

How is it given?
- Administer as a continuous infusion, titrating to effect. Gradually increase dosage until optimum response occurs.
- Direct intravenous push is not recommended.
- See infusion charts on next page

What should be monitored?
- Blood pressure
- Heart rate
- Peripheral pulses
- IV Site

Major drug interactions:
- Deactivated by sodium bicarbonate
- Hypotension and/or bradycardia occurs with phenytoin
- Reduced effects with Beta-adrenergic blocker
- Potentiated effects with MAO inhibitors

What side effects/potential complications are expected?
- Hypertension
- Tachycardia, palpitations, arrhythmias

Are there any special instructions/considerations?
- Tissue necrosis is associated with extravasation.
- Medical Control should be consulted before initiating dopamine on any patient taking MAO inhibitors.

CONTINUED ON NEXT PAGE

Dopamine (Continued)

Adult Dopamine Infusion Chart:

Dopamine Infusion: Standard 1600mcg/ml Concentration												
Weight		Milliliters hour or drops per minute with micro drip tubing (60gtt/ml)										
lbs	kg	2 mcg/kg/hr	3 mcg/kg/hr	4 mcg/kg/hr	5 mcg/kg/hr	6 mcg/kg/hr	7 mcg/kg/hr	8 mcg/kg/hr	9 mcg/kg/hr	10 mcg/kg/hr	15 mcg/kg/hr	20 mcg/kg/hr
77	35	3	4	5	7	8	9	10	11	13	20	26
88	40	3	5	6	8	9	11	12	14	15	23	30
99	45	3	5	7	8	10	12	14	15	17	25	34
110	50	4	6	8	9	11	13	15	17	19	28	38
121	55	4	6	8	10	12	14	17	19	21	31	41
132	60	5	7	9	11	14	16	18	20	23	34	45
143	65	5	7	10	12	15	17	20	22	24	37	49
154	70	5	8	11	13	16	18	21	24	26	39	53
165	75	6	8	11	14	17	20	23	25	28	42	56
176	80	6	9	12	15	18	21	24	27	30	45	60
187	85	6	10	13	16	19	22	26	29	32	48	64
198	90	7	10	14	17	20	24	27	30	34	51	68
209	95	7	11	14	18	21	25	29	32	36	53	71
220	100	8	11	15	19	23	26	30	34	38	56	75
231	105	8	12	16	20	24	28	32	35	39	59	79
242	110	8	12	17	21	25	29	33	37	41	62	83
253	115	9	13	17	22	26	30	35	39	43	65	86

Pediatric Dopamine Infusion Charts:

Dopamine Infusion: Standard 1600mcg/ml Concentration						
Broselow Color	Weight (kg)	Milliliters hour or drops per minute with micro drip tubing (60gtt/ml)				
		5 mcg/kg/hr	7.5 mcg/kg/hr	10 mcg/kg/hr	15 mcg/kg/hr	20 mcg/kg/hr
Gray	3	0.6*	0.8*	1.1	1.7	2.3
Gray	4	0.8*	1.1	1.5	2.3	3.0
Gray	5	0.9*	1.4	1.9	2.8	3.8
Pink	6-7	1.2	1.9	2.4	3.7	4.9
Red	8-9	1.6	2.4	3.2	4.8	6.4
Purple	10-11	2	3	3.9	5.9	7.9
Yellow	12-14	2.4	3.7	4.9	7.3	9.8
White	15-18	3.1	4.7	6.2	9.3	12.4
Blue	19-23	3.9	5.9	7.9	11.8	15.8
Orange	24-29	5	7.5	9.9	14.9	19.9
Green	30-36	6.2	9.3	12.4	18.6	24.8
*For rates <1 mL/hour, consider using 800 mcg/mL concentration.						

Dopamine Infusion: 800mcg/ml Concentration						
Broselow Color	Weight (kg)	Milliliters hour or drops per minute with micro drip tubing (60gtt/ml)				
		5 mcg/kg/hr	7.5 mcg/kg/hr	10 mcg/kg/hr	15 mcg/kg/hr	20 mcg/kg/hr
Gray	3	1.1	1.7	2.3	3.4	4.5
Gray	4	1.5	2.3	3.0	4.5	6.0
Gray	5	1.9	2.8	2.8	5.6	7.5

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Epinephrine (Adrenalin®)

Indication: Anaphylaxis, cardiac arrest, croup, severe bronchospasm, symptomatic bradycardia

See note under special instructions/considerations on the following page in reference to different concentrations of epinephrine.

Adult dose range:
- Cardiac Arrest: 1 mg (**1:10,000**) every 3 - 5 minutes IV or IO; ET 2-2.5 times normal dosing followed by flush and ventilations
- Symptomatic Bradycardia not relieved by atropine or TCP: 1 mg (**1:1,000**) in 250 cc NS or D5W administered at 2 - 10 mcg/min

Epinephrine Infusion: 4mcg/ml Concentration									
mcg/min	2	3	4	5	6	7	8	9	10
microdrops/min	30	45	60	75	90	105	120	135	150

- Bronchospasm/Anaphylaxis:
  1) 0.3 mg **(1:1,000)** SQ or IM using an auto-injector.
  2) 0.3 mg (**1:10,000**) IV (IF SEVERE OR NO RESPONSE TO SQ/IM)
  Repeat every 5-10 minutes as needed for respiratory and hemodynamic support

Pediatric dose range:
- Cardiac Arrest: 0.01mg/kg (**1:10,000**) every 3 - 5 minutes IV or IO; ET dosing: 0.1mg/kg (**1:1000**) followed by 5mL flush and 5 ventilations.
- Symptomatic Bradycardia: 0.01mg/kg (**1:10,000**) every 3 - 5 minutes IV or IO
- Bronchospasm/Anaphylaxis: 0.01 mg/kg (**1:1000**) SQ to a maximum dose of 0.3 mg/dose
  - Patient >30kg 0.3 mg IM using an auto-injector
  - Patient 10-30kg 0.15mg IM using junior auto-injector
- Croup:
  - Patient < 15kg 2.5ml (**1:1000)** in 3ml NS nebulized
  - Patient > 15kg 5ml (**1:1000)** nebulized

Time to onset: < 1 minute IV, 3-10 IM,SQ

Duration of effect: 3-5 minutes IV

Contraindications:
- None in cardiac arrest
- Hypersensitivity to epinephrine
- Hypertension or tachyarrhythmias

How is it given?
- IV, IO, ET, IM, SQ, Auto-injector

What should be monitored?
- Blood pressure
- Heart rate
- Pulmonary function

CONTINUED ON NEXT PAGE

Epinephrine (Continued)

Major drug interactions:
- Deactivated by sodium bicarbonate
- Reduced effects with Beta-adrenergic blocker
- Potentiated effects with MAO inhibitors
- Increased arrhythmias with sympathomimetics (eg. caffeine, cocaine) and phosphodiesterase inhibitors (Viagra®, Cialis®, Levitra®)

What side effects/potential complications are expected?
- Tachycardia, palpitations, angina
- Flushing, hypertension

Are there any special instructions/considerations?
- Do not confuse concentration strengths of epinephrine 1:1000 and 1:10000
- **1:1000 is not for IV/IO use**
- Do not mix with sodium bicarbonate
- For anaphylaxis, give epinephrine early and often
- ET dosing should not be administered until attempts have been made at IV/IO insertions without success

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Fentanyl (Sublimaze®)

Indications: Moderate to severe pain

Adult dose range: 25-100 mcg

Pediatric dose range: 2-12 years: 1 mcg/kg - ***Contact Medical Control for advisement on use***

Time to onset: Rapid

Contraindications:
- Severe hemorrhage
- Shock
- Respiratory depression

How is it given?
- Slow IV, IO, IN

What should be monitored?
- Level of conscious
- Airway
- Respirations
- Watch for dysrhythmias (bradycardia)

Major drug interactions:
- Other CNS depressants may potentiate the effects of fentanyl (narcotics, barbiturates, tranquilizers)
- MAO Inhibitor use within previous 14 days - contact Medical Control for advisement

What side effects/potential complications are expected?
- Inability to maintain airway
- Decreased level of consciousness
- Respiratory depression
- Bradycardia

Are there any special instructions/considerations?
- Use caution to patients with liver and kidney dysfunction
- Narcotic antagonist such as naloxone should be readily available to manage apnea
- Reduced dosages may be necessary for high-risk or geriatric patients

Glucagon

Indications: Hypoglycemia; Beta blocker overdose

Adult dose range: 1 mg IM, IN

Pediatric dose range: 0.1 mg/kg IM, IN

Time to onset: 5 to 20 minutes

Contraindications:
- Known hypersensitivity to glucagon

How is it given?
- IM, SC, IN

What should be monitored?
- Level of consciousness
- Blood pressure
- Pulse rates
- Blood sugar

Major drug interactions:
- No acute interactions in the emergency setting

What side effects/potential complications are expected?
- Rare side effects may include: hypotension, dizziness, headache, nausea/vomiting

Are there any special instructions/considerations?
- Glucagon will only work if there are sufficient glucose stores in the liver and may be ineffective for poorly nourished patients
- Effects are slower than dextrose IV administration and should be considered only if an IV line cannot be established
- Positive inotropic effects may be seen with administration
- Glucagon for parenteral administration is derived from pork or beef pancreas

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Haloperidol (Haldol®)

Indications: Acute psychotic episodes, severe agitation

Adult dose range: 2-5 mg IM. Contact Medical Control for additional dosing.

Pediatric dose range: ***Contact Medical Control for advisement on use***
- Not recommended for pediatrics under the age of 5.
- 6-12 years old: 1-3 mg/kg with max dose of 0.15mg/kg/day.

Time to onset: 30 to 45 minutes

Contraindications:
- Ventricular arrhythmia, or known prolonged QT interval
- Caution and/or contact Medical Control if patient is already taking any sedative or psychoactive drugs (including lithium), or appears intoxicated
- Decreased level of consciousness
- Hypotension

How is it given?
- IM, IV, IO

What should be monitored?
- Decreased level of consciousness
- Airway
- Respirations
- Blood pressure
- Pulse

Major drug interactions:
- Used along with antihypertensives may lead to hypotension

What side effects/potential complications are expected?
- Altered level of consciousness
- Inability to maintain airway
- Respiratory depression
- Hypotension
- Tachycardia
- Extrapyramidal symptoms (EPS)

Are there any special instructions/considerations?
- Watch for cardiovascular effects such as prolonged QT or torsades de pointes

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Ipratropium (Atrovent®)

Indications: Bronchial asthma and reversible bronchospasm associated with COPD

Adult dose range: 0.5 mg

Pediatric dose range: ***Contact Medical Control for advisement on use***
- Not recommended for use in pediatrics under the age of 12 years.
- Over 12 years, may administer 0.5mg adult dosage.

Time to onset: 30 minutes to 1 hour

Contraindications:
- Hypersensitivity to ipratropium
- Not indicated for acute treatment of bronchospasms

How is it given?
- Nebulized; may also assist patient with MDI

What should be monitored?
- General patient assessment
- Respiratory effort

Major drug interactions:
- No acute interactions in the emergency setting

What side effects/potential complications are expected?
- Palpitations
- Anxiety, dizziness
- Nausea/Vomiting

Are there any special instructions/considerations?
- May be administered with Beta agonist in same nebulizer unit
- Caution should be used when administering to elderly patients and those with cardiovascular disease or hypertension

Lidocaine (Xylocaine®)

Indications: Used as an antiarrhythmic for: ventricular tachycardia; ventricular fibrillation; and malignant PVCs

Adult dose range: 1-1.5mg/kg for first dose, 0.50-0.75 for subsequent doses up to a max of 3mg/kg
- For pulseless rhythms, repeat dosing every 3-5 minutes
- For pulse rhythms, doses may be repeated every 5-10 minutes.
- If conversion, begin infusion at 2-4mg/min.
- If no pre-mixed bags available, place 1g of lidocaine in 250mL bag (or 2g in 500mL) of D_5W or NS for a 4:1 ratio of drug per milliliter.

Lidocaine Infusion: 4mg/ml Concentration			
mg/min	2	3	4
microdrops/min	30	45	60

Pediatric dose range: 1 mg/kg IV/IO; infusions at 20-50mcg/kg/min

Time to onset: 1 to 3 minutes

Contraindications:
- Second-degree Mobitz II and Third-degree AV blocks
- Not to be given in bradycardic rhythms as first line treatment

How is it given?
- IV, IO

What should be monitored?
- Level of consciousness
- Blood pressure
- Pulse
- Cardiac monitor

Major drug interactions:
- Use with caution when administering concomitantly with: procainamide, phenytoin, quinidine and beta-blockers

What side effects/potential complications are expected?
- Altered level of consciousness/drowsiness
- Seizures
- Hypotension
- Bradycardia/heart blocks
- Nausea/vomiting

Are there any special instructions/considerations?
- Dosage of lidocaine should be reduced by 50% in patients over the age of 70, patients with liver disease, and heart failure
- Lidocaine 2% can be used to reduce discomfort of IO insertions on conscious patients. Dosage given through IO line after insertion: Adults - 20-40mg; pediatrics- 0.5mg/kg

Lorazepam (Ativan®)

Indication: Seizure activity; excited delirium; acute agitation

Adult dose range: 1-4 mg; not to exceed 4 mg

Pediatric dose range: 0.05mg/kg- max 2mg dose (0.02-0.1mg/kg range)
Contact Medical Control for advisement on use

Time to onset: 1 to 5 minutes, IV

Contraindications:
- Hypersensitivity to lorazepam
- Pre-existing CNS depression
- Respiratory depression

How is it given?
- Slow IV, IM

What should be monitored?
- Airway
- Level of consciousness
- Heart rate
- Respiratory rate
- Blood pressure

Major drug interactions:
- Any opiates
- Seizure medications
- Antihistamines
- Any medication for mood disorder

What side effects/potential complications are expected?
- Inability to maintain airway
- Decreased level of consciousness
- Respiratory depression/apnea
- Hypotension

Are there any special instructions/considerations?
- Contact Medical Control for patients with:
  - Neurologic disorders
  - Geriatric
  - Pregnancy or lactating patients

Magnesium Sulfate

Indication: Torsades de pointes, treatment of cardiac arrhythmias caused by hypomagnesia; seizure activity associated with toxemia/eclampsia of pregnancy

Adult dose range:
- 1-2 grams IV push for abnormal ventricular rhythms;
- 2-4 grams for seizure activity related to toxemia- if no IV available, give 2 grams IM

Pediatric dose range: 25-50 mg/kg; max single dose of 2g

Time to onset: Immediate when given IV

Contraindications
- Heart block

How is it given?
- Slow IV

What should be monitored
- Blood pressure
- Respiratory and CNS depression during rapid IV administration
- Magnesium levels
- Monitor for arrhythmias

Major drug interactions
- No major drug interactions

What side effects/potential complications are expected?
- CNS depression
- Respiratory depression
- Complete heart block

Are there any special instructions/considerations?
- Hypotension and asystole may occur with rapid administration

Methylprednisolone (Solu-Medrol®)

Indication: Anti-inflammatory medication; asthma, exacerbation of COPD, anaphylaxis

Adult dosage range: 125 mg

Pediatric dosage range: 1.0-2.0mg/kg ***Contact Medical Control for advisement on use***

Time to onset: Rapid

Contraindications:
- Known hypersensitivity to methylprednisolone

How is it given?
- Slow IV, IM

What should be monitored?
- Blood pressure, blood glucose, electrolytes

Major drug interactions:
- Decreased by phenytoin, phenobarbital, and rifampin (anti-TB)

What side effects/potential complications are expected?
- Rare, but possible side effects:
- Fluid retention
- CHF
- Hypertension
- Vertigo
- Headache
- Projectile Vomiting if pushed too fast
- Hiccups

Are there any special instructions/considerations?
- Dosing should be based on the lesser of ideal body weight or actual body weight
- Long-term use may cause GI bleeding, prolonged wound healing - watch for possible problems if patient is on home therapies - consider lower dosing (80mg)
- Recent administration of live vaccines may cause reduced effects

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Midazolam (Versed®)

Indication: Seizure activity; excited delirium; acute agitation

Adult dose range: 1-2.5 mg titrate to effect and respiratory effort; contact Medical Control for repeat doses.

Pediatric dose range: 0.2 mg/kg to a max of 10mg**; *Contact Medical Control for advisement on use***

Time to onset: 1 to 3 minutes, IV

Contraindications:
- Hypersensitivity to midazolam
- Pre-existing CNS depression
- Respiratory depression

How it is given?
- Slow IV, IO; IN, IM

What should be monitored?
- Airway
- Level of consciousness
- Heart rate
- Respiratory rate
- Blood pressure

Major drug interactions:
- Any opiates
- Seizure medications
- Antihistamines
- Any medication for mood disorder

What side effects/potential complications are expected?
- Inability to maintain airway
- Decreased level of consciousness
- Respiratory depression/apnea
- Hypotension

Are there any special instructions/considerations?
- Lower doses are recommended when administered for sedation prior to cardioversion or transcutaneous pacing- 1-2.5mg, titrating to desired effect
- Contact Medical Control for patients with:
  - Neurologic disorders
  - Geriatric
  - Pregnancy or lactating patients

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Morphine Sulfate

Indications: Moderate to severe pain control

Adult dose range: 2mg increments - titrate to pain relief

Pediatric dose range: 0.1mg/kg - titrate to pain relief; **Not recommended in pediatrics under the age of 2 years**

Time to onset: 1 to 3 minutes

Contraindications:
- Head injury
- Volume depletion
- Respiratory depression
- Hypotension
- Caution in patient with acute interior MI

How is it given?
- IV, IO, IM

What should be monitored?
- Level of consciousness
- Respirations
- Blood pressure

Major drug interactions:
- Use caution with other vasodilators or CSN depressants

What side effects/potential complications are expected?
- Altered level of consciousness
- Inability of patient to maintain airway
- Respiratory depression
- Hypotension
- Nausea/vomiting

Are there any special instructions/considerations?
- Have airway management equipment and naloxone ready and available for respiratory depression

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Naloxone (Narcan®)

Indication: Antidote for narcotic agonists

Adult Dosage Range: 0.4-2 mg , may repeat at 2-3 minute intervals

Pediatric Dosage Range: Initial dose of 0.01mg/kg IV/IO, if no clinical improvement: administer 0.1mg/kg IV/IO. Maximum dose of 2mg

Time to onset: Within 2 minutes

Contraindications:
- Hypersensitivity to naloxone
- Caution in patient known to be narcotic dependent

How is it given?
- IV, IO, ET, IM

What should be monitored?
- Blood pressure
- Respiratory rate
- Heart rate

Major Drug Interactions:
- Decreased effect of narcotic analgesia
- May precipitate acute narcotic withdrawal in patient who is narcotic dependent

What side effects/potential complications are expected?
- Rare, but sometimes seen side effects:
  - Hypertension
  - Hypotension
  - Tachycardia
  - Ventricular arrhythmias
  - Cardiac arrest
  - Nausea/vomiting
  - Dyspnea
  - Pulmonary edema
  - Sneezing
  - Diaphoresis

Are there any special instructions?
- Effectiveness is due to narcotic reversal, not to an effect on opiate receptors. Therefore, adverse events occur secondary to reversal (withdrawal) of narcotic analgesia and sedation, which can cause severe reactions.

Nitroglycerin (Nitroquick®, Nitrostat®)

Indication: Angina pectoris; pulmonary/systemic hypertension

Adult Dosage Range: Sublingual: 0.4mg tab, 0.4 mg spray- may repeat once every 5 minutes to a max of 3 doses; ½-1 inch paste for transdermal administration.

Pediatric Dosage Range: Contraindicated

Time to onset: Sublingual - 1 to 3 minutes; 30 minutes with topical administration with longer lasting effects.

Contraindications:
- Withhold from any patient taking erectile dysfunction drugs within last 72 hours; consult Medical Control
- Caution and contact Medical Control for patient with ECG signs of acute inferior MI or right ventricular MI
- Hypersensitivity to nitroglycerin
- Increased ICP
- Systolic blood pressure less than 110 mmHg

How is it given?
- SL, Topical

What should be monitored?
- Level of consciousness
- Blood pressure
- Heart rate

Major Drug Interactions:
- Alcohol, beta-blockers, calcium channel blockers may enhance nitroglycerin's hypotensive effect
- Sildenafil and other drugs for erectile dysfunction may increase vasodilatory effects and result in severe irreversible hypotension

What side effects/potential complications are expected?
- Headache
- Dizziness
- Hypotension/orthostasis
- Postural syncope
- Tachycardia

Are there any special instructions?
- Do not chew or swallow sublingual dosage forms
- Keep patient supine when possible and monitor blood pressure frequently
- Use with caution in hypovolemia, hypotension, and right ventricular infarctions

Ondansetron (Zofran®)

Indication: Antiemetic for vomiting or severe nausea

Adult dosage range: 4 mg IV/IM - slow IV push over 2-3 min undiluted

Pediatric dosage range: After order from Med Control: 0.15 mg/kg

Time to onset: 3 to 5 minutes

Contraindications:
- Hypersensitivity to drug
- Hypotension

How is it given?
- Slow IV, IO; IM, PO, ODT

What should be monitored?
- Blood Pressure
- Heart Rate
- Sedation
- ECG - prolonged QT

Major drug interactions: *Contact Medical Control for advisement*
- Phenytoin (Dilantin)
- Phenobarbital (Luminal)
- Carbamazepine (Carbatrol)
- Rifampin (Rifadin, Rimactane, Rifater)
- Apomorphine (Apokyn, Uprima, Spontane)

What side effects/potential complications are expected?
- Blurring of vision
- Dizziness
- Headache
- Constipation
- Chest pain
- Hypotension

Are there any special instructions/considerations?
- As with other antiemetics, routine prophylaxis is not recommended for patients in whom there is little expectation of nausea and/or vomiting
- Hepatic Impairment: Maximum dose of 8mg/IV

Oral Glucose (Glutose®, Insta-Glucose®)

Indications: Conscious patient with suspected hypoglycemia

Adult dose range: 15g PO

Pediatric dose range: 7.5g PO

Time to onset: 5 to10 minutes

Contraindications:
- Decreased level of consciousness
- Inability to swallow
- Nausea/vomiting

How is it given?
- PO

What should be monitored?
- Level of consciousness
- Blood glucose

Major drug interactions:
- None in the emergency setting

What side effects/potential complications are expected?
- Nausea/vomiting
- Improvement in blood sugar levels

Are there any special instructions/considerations?
- Must be swallowed.
- Check glucose readings before and at least 10 minutes after administration
- With altered level of consciousness, start IV/IO and administer dextrose solution; in the event an IV cannot be established, administer glucagon IM/IN

Oxygen

Indications: Hypoxia, carbon monoxide toxicity

Adult dose range: 24-100 percent (FiO_2) as required

Pediatric dose range: 24-100 percent (FiO_2) as required

Time to onset: rapid

Contraindications:
- None in the emergency setting

How is it given?
- Inhalation, positive pressure assist

What should be monitored?
- Level of consciousness
- Pulse oximetry

Major drug interactions:
- None in the emergency setting

What side effects/potential complications are expected?
- Drying of mucus membranes without humidification
- Improvement of hypoxic event as indicated by patient presentations, pulse rates, and SpO_2 readings

Are there any special instructions/considerations?
- In most situations, oxygen is administered to maintain an SpO_2 reading of ≥ 95%
- Pulse rates are good indicators of oxygen administration's effectiveness. Bradycardia, especially in the pediatric patient, indicates severe hypoxic conditions
- Closely monitor COPD patients treated with oxygen; these patients may rapidly become sedated from loss of hypoxic drive.
- Humidify whenever possible when providing high flow volumes
- Cold oxygen may worsen asthma or create hypothermic conditions in some patients.

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Pralidoxime (2-PAM)

Indications: Severe organophosphate poisoning (OPP)

Adult dose range: 2 grams in 100mL NS - infuse over 30 minutes

Pediatric dose range: 20-40mg/kg to a max of 1 gram, slow (over 30 minutes) IV

Time to onset: 5 to 20 minutes

Contraindications:
- Should not be given in cases of poisoning from inorganic phosphates
- Not to be used with the carbamate class of insecticides

How is it given?
- Slow IV, IO; IM

What should be monitored?
- Mental status
- Heart rate
- Respiratory distress (laryngospasm)
- Musculoskeletal reactions

Major drug interactions:
- Respiratory depressants (potentiates effects of OPP):
  - Narcotics, antiemetics, antihistamines, phenothiazines, alcohol
- Theophylline preparations

What side effects/potential complications are expected?
- Tachycardia
- Increased salivation
- Headache
- Blurred vision
- Altered mental status
- Nausea/vomiting

Are there any special instructions/considerations?
- For large-scale exposures to organophosphates/nerve agents, access ChemPack caches - see *ChemPack Fact Sheet* in the *Resources* section of Guidelines, or call Georgia Poison Center directly at 1-800-222-1222.
- Always protect self and others from exposure to poisons
- When used with Atropine, the effects of Atropine may be seen much earlier than expected
- Excitement and manic behavior has been noted in some cases immediately following recovery from unconsciousness

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Sodium Bicarbonate

Indication: Metabolic acidosis; hyperkalemia; tricyclic antidepressant overdose with wide QRS

Adult Dosage Range: 1 mEq/kg (8.4%) when appropriate, may repeat with 0.5 mEq/kg

Pediatric Dosage Range:
- **Age <*2 years***: 1mEq/kg (4.2%) may repeat with 0.5 mEq/kg in 10 minutes x 1 or as indicated by patient's acid-base status
- ***Age >2 years***: 1mEq/kg (8.4%) may repeat with 0.5 mEq/kg in 10 minutes x 1 or as indicated by patient's acid-base status

Time to onset: Rapid

Contraindications:
- Alkalosis
- Hypocalcemia/hypernatremia
- Inadequate ventilation during cardiopulmonary resuscitation

How is it given?
- IV, IO

What should be monitored?
- Vein patency
- Blood pH
- PO2
- PCO2
- Cardiac arrhythmias

Major Drug Interactions:
- Inhibits
  - Tetracyclines
  - Chlorpropamide
  - Lithium carbonate
  - Methotrexate
  - Salicylates
- Potentiates
  - Anorexiants
  - Sympathomimetics
  - Quinidine

What side effects/potential complications are expected?
- Rare when used with caution
  - Alkalosis
  - Hypernatremia
  - Hypokalemia
  - Local site irritation

Are there any special instructions?
- Extravasation causes tissue necrosis
- Patients should be adequately ventilated before administration during cardiac arrest

Resources

Resources

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Abbreviations and Definitions

AC power	*Alternating Current Power*
ACS	*Acute Coronary Syndrome*
AED	*Automated External Defibrillator*
AEIOUTIPS	*Alcohol, Electrolytes, Insulin, Opiates, Uremia, Trauma, Infection, Poison, Psychogenic, Seizure, Shock*
AHA	*American Heart Association*
AIDS	*Acquired Immune Deficiency Syndrome*
ALS	*Advanced Life Support*
ALTE	*Apparent Life Threatening Event*
AMI	*Acute Myocardial Infarction*
AMS	*Altered Mental Status*
APGAR	*Appearance, Pulse Rate, Grimace, Activity, Respiration*
ASA	*Aspirin*
AVPU	*Response level: Alert, responsive to verbal stimuli, responsive to painful stimuli only, unresponsive*
BGA	*Blood Glucose Analysis*
BIAD	*Blind Insertion Airway Device*
BLS	*Basic Life Support*
BP	*Blood Pressure*
BSA	*Body Surface Isolation*
BSA	*Body Surface Area*
BVM	*Bag Valve Mask*
°C	*Degrees Celsius*
Cardiac monitoring	*Using electrodes to identify rhythm with continuous readout*
CDC	*Centers for Disease Control*
CHF	*Congestive Heart Failure*
cm	*Centimeters*
CO_2	*Carbon Dioxide*
COPD	*Chronic Obstructive Pulmonary Disease*
CPAP	*Continuous Positive Airway Pressure*
CPR	*Cardiopulmonary Resuscitation*
CRT	*Capillary Refill Time*
D5W	*5% Dextrose in water*
D10W	*10% Dextrose in water*
D25W	*25% Dextrose in water*
D50W	*50% Dextrose in water*
DIB	*Difficulty in Breathing*
dL	*Deciliter*
DNR	*Do Not Resuscitate*
DPH	*Department of Public Health*
ECG	*Electrocardiogram*
ET	*Endotracheal Intubation*

CONTINUED ON NEXT PAGE

Abbreviations and Definitions (Continued)

ETA	*Estimated Time of Arrival*
ETCO2	*End-Tidal CO2*
°F	*Degrees Fahrenheit*
FAST	*Stroke Assessment; Facial droop, Arm drift, Speech, Time*
FBAO	*Foreign Body Airway Obstruction*
g	*Gram*
GCS	*Glascow Coma Scale*
GI	*Gastrointestinal*
gtt/min	*drops per minute (with **micro drip** tubing, equivalent to milliliters per hour)*
gtt	*Drop*
GU	*Gastrourinary*
HEPA	*High Efficiency Particulate Air (HEPA mask)*
HR	*Heart Rate*
ICP	*Intracranial Pressure*
IM	*Intramuscular*
IN	*Intranasal*
IV	*Intravenous*
J	*Joules*
KG	*Kilogram*
KVO	*Keep vein open*
L	*Liter*
LMP	*Last Menstrual Period*
LOC	*Level of Consciousness*
LPM	*Liter Per Minute*
LSB	*Long Spine Board*
LVAD	*Left Ventricular Assess Device*
mcg	*Microgram*
MDI	*Metered Dose Inhaler*
mEq	*Milliequivalent*
mg	*Milligram*
ml	*Milliliter*
mmHg	*Millimeters of Mercury*
MVC	*Motor Vehicle Collision*
NPA	*Nasopharyngeal Airway*
NPO	*Nothing by mouth*
NS	*Normal saline*
NV	*Nausea and Vomiting*
O2	*Oxygen*
ODT	*Oral Dissolving Tablet*
OCGA	*Official Code of Georgia*

CONTINUED ON NEXT PAGE

Abbreviations and Definitions (Continued)

OPA.....*Oropharyngeal Airway*
OPQRST.....*History of present illness; Onset, Provocation, Quality, Region and Radiation, Severity, Time*
Pallor.....*Pale skin*
PE.....*Pulmonary Embolism*
PEA.....*Pulseless Electrical Activity*
PO.....*Per Oral; by mouth*
PPE.....*Personal Protective Equipment*
PPMHx.....*Past Pertinent Medical History*
PPV .....*Positive pressure ventilation*
PR Interval.....*The period from the beginning of the P wave to the beginning of the QRS complex*
q.....*Each, every*
QRS.....*Ventricular depolarization complex*
ROSC..... *Return of Spontaneous Circulation*
SAI.....*Sedation Assisted Intubation*
SAMPLE.....Symptoms, *Allergies, Medications, Past medical history, Last oral intake, Events*
SBP.....*Systolic Blood Pressure*
SGA.....*Supraglottic Airway*
SL.....*Sublingual; under tongue*
SMR.....*Spinal Motion Restriction*
SpO2.....Oxygen Saturation (Ideally greater than or equal to 94%)
SQ.....*Subcutaneous (beneath skin)*
SVT.....*Supraventricular Tachycardia*
TB.....*Tuberculosis*
TBI.....*Traumatic Brain Injury*
TBSA.....*Total Body Surface Area*
TCP.....*Transcutaneous Pacing*
Tourniquet.....*Device used to control venous/arterial bleeding to and extremity*
URI.....*Upper Respiratory Infection*
USAISR.....*United States Army Institute of Surgical Research*
VF.....*Ventricular Fibrillation*
VT.....*Ventricular Tachycardia*

Important Numbers

State and National Resources

Adult Protective Services ……..1-888-774-0152
CHEMPACK Request……..1-800-222-1222
CHEMTREC…..1-800-424-9300
Georgia Child Protective Services.……1-404-657-3400 or 1-855-422-4453
Georgia Crisis and Access Line (Mental Health)……1-800-715-4225
Georgia Critical Incident Stress Foundation Crisis Hotline……...1-404-419-6506
Georgia Division of Aging Services……..1-866-552-4464
Georgia Office of Emergency Medical Services……..1-404-679-0547
Georgia Poison Control.....1-800-222-1222
Mental Health Hotline……..1-800-715-4225
National Domestic Violence Hotline……1-800-799-7233
Trauma Communications Center...…....1-866-556-3314 or FREE mobile to mobile 1-404-229-6405

Office of Emergency Medical Services and Trauma

Georgia Office of EMS……..1-404-679-0547
Northwest Georgia Region I EMS……1-706-295-6176
North Georgia Region II EMS……1-770-535-5743
Metro Atlanta Region III EMS……1-404-248-8995
West Georgia Region IV EMS……1-706-845-4035
Central Georgia Region V EMS……1-478-993-4990
East Central Georgia Region VI EMS……1-706-667-4336
West Central Georgia Region VII EMS……1-706-321-6150
Southwest Georgia Region VIII EMS……1-404-989-5173
Southeast Georgia Region IX EMS……1-912-262-3035
Northeast Georgia Region X EMS……1-706-583-2862

Georgia Air Ambulance Providers

Air Evac Lifeteam……1-800-247-3822
Carrolton, Cordele, Dublin, Jesup, Lagrange, Statesboro, Vidalia, Waycross
Air Methods Georgia…… 1-888-763-1010
Augusta, Carrolton, Conyers, Griffin, Gainesville, Jasper, Kennesaw, Newnan, (Air Life Georgia); Springfield and Vidalia (Life Star)
Children's Healthcare (Children's 1)……1-404-785-6540
Atlanta
Gold Cross (AirMed)……1-888-792-9245
Augusta
Med Trans (Life Force)……1-800-523-6723 or 1-423-778-5433
Blue Ridge, Calhoun

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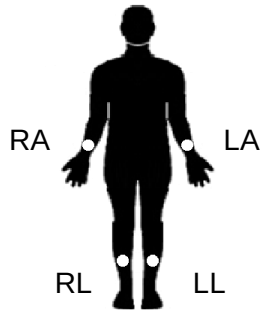
12 Lead ECG

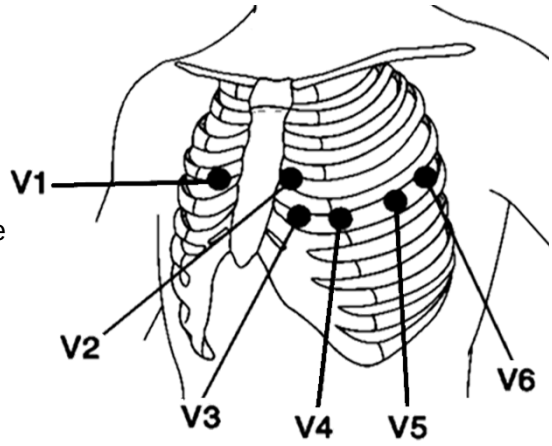
Limb Lead Placement

- LA - Left arm, any where below the shoulder
- LL - Left leg, anywhere below the torso
- RA - Right arm, any where below the shoulder
- RL - Right leg, anywhere below the torso



Precordial Lead Placement

- V1 - Right side of sternum,4th Intercostal space
- V2 - Left side of sternum, 4th intercostal space
- V3 - Directly between V2 and V4
- V4 - 5th intercostal space, left mid clavicular line
- V5 - 5th intercostal space, anterior axillary line, directly between V4 and V6
- V6 - 5th intercostal space, left midaxillary line



Continuous Leads

- II, III, aVF - Inferior Leads
- V1-V2 - Septal Leads
- V3-V4 - Anterior Leads
- V5-V6, I, aVL - Lateral Leads

I Lateral left ventricle	**aVR**	**V1** Septal	**V4** Anterior
II Inferior portion of the left ventricle	**aVL** Lateral left ventricle	**V2** Antero-Septal	**V5** Lateral left ventricle
III Inferior portion of the left ventricle	**aVF** Inferior portion of the left ventricle	**V3** Antero-Septal	**V6** Lateral left ventricle

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Medication Administration

Assisting Patient with Taking OTC and/or Own Prescription Medications

- Georgia Scope of Practice allows all levels of EMT to assist patients in taking their own prescribed medications and/or over-the-counter medications. Medications must be approved by local medical director.

Auto Injector Drug Delivery

- All levels of EMS licensure are allowed to administer epinephrine parentally to patients experiencing anaphylaxis. EMT and EMT-I may administer by auto-injector only.
- All levels of licensure are allowed to administer unit dose commercially pre-filled containers or auto injectors for the administration of life saving medications intended for self, peer, or patient rescue in hazardous materials situations

Nasal Drug Delivery

- Medications administered via the IN route require a higher concentration of drug in a smaller volume of fluid than typically used in the IV route. In general, administer no more than 1 mL of volume per nostril.
- Do not administer medications via the IN route if the patient's nose is bleeding or if nasal congestion or nasal discharge is present. Nasal administration does not always work for every patient and is less likely to be effective if the patient has been abusing vasoconstrictors, such as cocaine.
- Medications commonly delivered IN are:
  - fentanyl
  - midazolam
  - naloxone
  - glucagon
  - ondansetron

Nebulized Drug Delivery

- All levels of EMS licensure are allowed to deliver inhaled medications through a nebulizer or through use of metered-dose-inhaler to patients with difficulty breathing.
- Treatment should continue until medication in reservoir is depleted.
- Nebulized medications may be used with CPAP.
- Patient monitoring should include pulse, respiratory rate, and breath sounds

Intra-osseous Drug Delivery

- IO placement or removal is approved for EMT-I, AEMT, CT, and paramedic. This includes placement in both adults and children.
- Local medical directors should specify approved anatomic site of insertion and indications for insertion (e.g. if peripheral IV access should be attempted first, how many peripheral attempts)
- All fluids and medications that can be administered via IV may be given IO, unless specified by local medical director
  - If the patient experiences pain during infusion, inject lidocaine into the marrow cavity.
  - Adult: 2 – 5ml (20 – 50mg) 1% or 2% lidocaine (Paramedic only).
  - Pediatric: 0.5mg/kg 1% or 2% lidocaine (Paramedic only).
- Contraindications include
  - Placement in or distal to a fractured bone
  - Placement through area with infection or burn.

Pre-existing Indwelling Catheters or Other Implanted Ports

- Scope of practice allows CT and paramedic to access these ports, if approved by local medical director
- Implanted access ports and devices in children should not be accessed without contact with medical control.

AEMT Scope

- Medications allowed for AEMT, in addition to those allowed for EMT-I are
  - Glucagon for hypoglycemia, via IM, SC, IV, IO, or IN
  - Nitroglycerine, SL, for chest pain of suspected cardiac origin
  - Naloxone to patient with suspected narcotic overdose, via IM, SC, IV, IO, or IN
  - Administration of nitrous oxide (50/50 mix) for pain relief
  - Epinephrine for anaphylaxis, prepared by AEMT, via IM or SC.

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Spinal Motion Restriction

Spinal Motion Restriction (SMR) is a term that includes C-Spine immobilization. The primary goal of a Pre-Hospital Provider, in patients with a potential spinal injury, is to "do no harm", stabilize and transport. However, some patients with trauma can be considered for selective immobilization, to avoid morbidity associated with immobilization (skin pressure, respiratory difficulty).

The traditional method of performing "C-Spine immobilization" is still used and widely accepted. The patient is advised not to move and manual control of their neck is maintained with two hands by a provider. A cervical collar is then placed on the patient's neck. They are then carefully manipulated, minimizing motion of the spinal column, to a long spine board.

Two validated and commonly used criteria to determine need for field immobilization are the NEXUS criteria and the Canadian C-Spine Rule. These screening criteria may be used in stable, alert trauma patients, with no communication barrier.

NEXUS Low-Risk Criteria

Stable, conscious trauma patients with no communication barriers may be transported without spinal immobilization if they meet **ALL FIVE** of these criteria:

- No posterior midline cervical-spine tenderness.
- No evidence of intoxication.
- No altered mental status.
- No focal neurologic deficit.
- No painful distracting injuries.

Canadian C-Spine Rule

- Any high risk factor? (any one mandates immobilization)
  - Age over 65 years
  - Dangerous mechanism
  - Numbness or tingling in extremities
- Any low-risk factor? (if any are no, immobilize)
  - Simple rear end MVC
  - Ambulatory at any time at scene
  - No neck pain at scene
  - No midline c-spine tenderness
- Ability to voluntarily rotate the neck?
  - Patient voluntarily able to actively rotate neck 45 degrees to right and left
  - If unable, immobilize

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Standard Precautions

Indications

- Standard precautions are guidelines for reducing the risk of transmission of blood-borne and other pathogens that apply all patients receiving care regardless of their diagnosis or presumed infection status.

Type and Use of Personal Protective Equipment

- Gloves - for any patient contact, and when cleaning/disinfecting contaminated equipment. Puncture resistant gloves will be worn in situations where sharp or rough edges are likely to be encountered, i.e., auto extrication.
- Face mask & eye protection - facial protection will be used in any situation where splash contact with the face is possible. This protection may be afforded by using both a face mask and eye protection, or by using a full-face shield. When treating a patient with a suspected or known airborne transmissible disease, particulate facemasks should be used. For respiratory illnesses (TB, SARS) it is beneficial to mask the patient.
- Coverall/fluid resistant gowns - designed to protect clothing from splashes, gowns may interfere with, or present a hazard to, the member in some circumstances. The decision to use gowns to protect clothing will be left to the member. Structural fire fighting gear also protects clothing from splashes and is preferable in fire, rescue, or vehicle extrication activities.
- Shoe/Head Coverings - fluid barrier protection will be used if suspected contamination is possible.

General Precautions Against Disease

- If it's wet, it's infectious - use gloves
- If it could splash onto your face, use eye shields and mask or full face shield.
- If it's airborne, mask yourself or patient.
- If it can splash on your clothes, use a gown or structural fire fighting gear.
- If it could splash on your head or feet, use appropriate barrier protection.

Post Exposure Management

- Provide first aid
  - Secure area to prevent further contamination. (Stop bleeding with direct pressure.)
  - Remove contaminated clothing and flush.
  - Wash the contaminated area well with soap and water, or waterless hand cleanser.
  - If the eyes, nose, or mouth are involved, flush them well with large amounts of water.
- Notification and relief of duty - the worker's supervisor should be immediately notified if a worker experiences an exposure involving potentially infectious source material. The supervisor should determine if the worker needs to be relieved of duty.
- Report the exposure - the worker or immediate supervisor should promptly complete an exposure report, appropriate for the agency, and submit it to the designated Infection Control Officer.
- Seek medical attention, counseling, consent and testing per protocol

APGAR Scoring

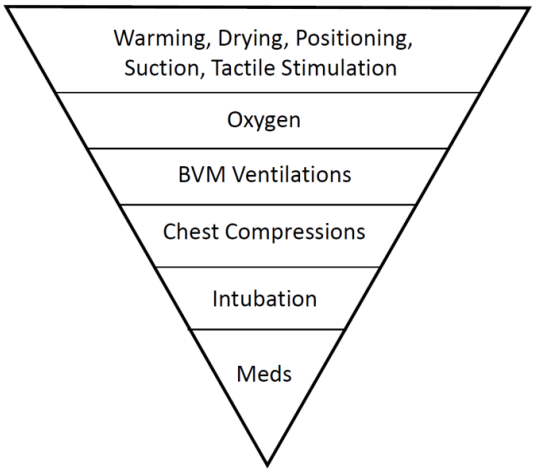
The **APGAR score** was devised in 1952 by the eponymous Dr. Virginia Apgar as a simple and repeatable method to quickly and summarily assess the health of newborn children immediately after birth. The APGAR score is determined by evaluating the newborn baby on five simple criteria on a scale from zero to two, then summing up the five values thus obtained. The resulting Apgar score ranges from zero to 10. The APGAR score should be calculated at 1 and 5 minutes after delivery. A score ≤ 3 is considered critical. A score ≥ 7 is good to excellent.

Dr. Virginia Apgar

Criteria	0 points	1 point	2 points
Appearance (skin color)	Body and extremities cyanotic	Body pink, extremities cyanotic	No cyanosis;
Pulse rate	Absent	< 100 beats/minute	>100 beats/minute
Grimace (irritability)	No response to stimulation	Grimace, feeble cry when stimulated	Cry or pull away when stimulated
Activity (muscle tone)	None or limp	Some flexion	Active motion; arms and legs flexed
Respiration	Absent	Weak, gasping	Strong cry, good respiratory effort

Inverted Pyramid of Neonatal Resuscitation

The Neonatal Resuscitation Pyramid is a stepwise approach for treatment of a newborn. The American Academy of Pediatrics and the American Heart Association have developed standards and guidelines for neonatal resuscitation. The care that may be required is depicted as an inverted pyramid. The interventions, which are most commonly required, are at the top of this pyramid. As you progress down the pyramid the interventions indicated become less commonly required. Most neonates transition to post-natal life without difficulty. About 10% of infants require some assistance to begin breathing at birth. Less than 1% Require extensive resuscitative measures.



Burns: Fluid Resuscitation

1- Parkland Formula
The formula for fluid resuscitation of the burn patient, the Parkland Formula, is used to calculate the amount of fluid to be administered to burn patient's over the first 24 hours. The Parkland formula is patient's weight in kilograms (PW) × percent of body surface area burned (TBSA) x 4ml**.** The first half of this amount is delivered in the first 8 hours and the remaining fluid is delivered in the next 16 hours. EMS focuses on the care given during the 1st hour or several hours following the event. Thus the formula as adapted for EMS and the first 8 hours is: PW x TBSA x 4ml, divide by 2. To determine the hourly rate, divide that solution by 8 and the equation becomes: PW x TBSA x 4ml ÷ 2÷ 8 = total to be infused for each of the first 8 hours. Another way to state the equation is to use: PW x TBSA x 0.25ml or $\frac{\text{PW x TBSA}}{4}$.

Example: 80 kg (198 lb) patient with 50 %TBSA x 0.25 ml = 1000ml/hr.
Two IV's are started, thus each are running at 500 ml/hr per IV

Reminder: If two IV's are running, divide total amount to be infused each hr. by 2

Also, this is based on a timely response following the burn event. If there is a delay between the time of the burn event and the initiation of fluid therapy, the patient should be bolused to compensate for the delay.

Example: If a delay of two hours occurs before fluid therapy can start for the patient in the first example. The patient would receives a fluid bolus of 2000 ml and a maintenance infusion of 1000 ml/hr should be initiated.

Parkland Formula:

PW x TBSA x 4ml = amount to be infused over 1st 24 hours

EMS Modification:

PW x TBSA x 0.25ml or $\frac{\text{PW x TBSA}}{4}$ = amount to be infused each hour of the 1st 8 hours

Do not exceed 1 liter of IV fluids unless authorized by Medical Control.

Contact Medical Control for fluid orders in patients with CHF or cardiac disease.

Burns: Fluid Resuscitation (continued)

2- Rule of Ten (Adults 40-80kg)

Rule of Ten: initial pre-hospital IV/IO fluid management for adults (wt 40 to 80 kg); normal saline may be used pre-hospital; LR is preferred if available. This is an infusion (mL/hr) not a bolus, unless the patient requires fluid resuscitation from hemorrhagic trauma.

- **Estimate the burn size to the nearest 10% BSA (this can be done with palm method or using the Rule of Nines burn chart).**
- **Multiply this number by 10: this is the initial fluid rate in ml/hr for adults up to 80 kg.**
- **For every 10 kg above 80 kg, increase the rate by 100 ml/hr.**

After fluid infusion has been initiated, further fluid management guidance should be obtained from destination or medical control.

This method was developed by the US Army Institute of Surgical Research.
Reference: Bacomo FK, Chung KK. A primer on burn resuscitation. J Emerg Trauma Shock 2011;4:109-13.

3- Advanced Burn Life Support Recommendation (Children < 40kg)

In the pre-hospital and early hospital settings, prior to calculating the Total Body Surface Area (TBSA) burned, the following guidelines are recommended as starting points for fluid resuscitation rates:

- **5 years old and younger: 125 ml/hour**
- **6 – 13 years old: 250 ml/hour**
- **14 years and older: 500 ml/hour**

More definitive calculation of hourly fluid rates is performed during the secondary survey.

***Note: These recommendations are for fluid infusions (ml/hour) and are not to be given as an IV bolus administration**

Do not exceed 1 liter of IV fluids unless authorized by Medical Control.

Contact Medical Control for fluid orders in patients with CHF or cardiac disease.

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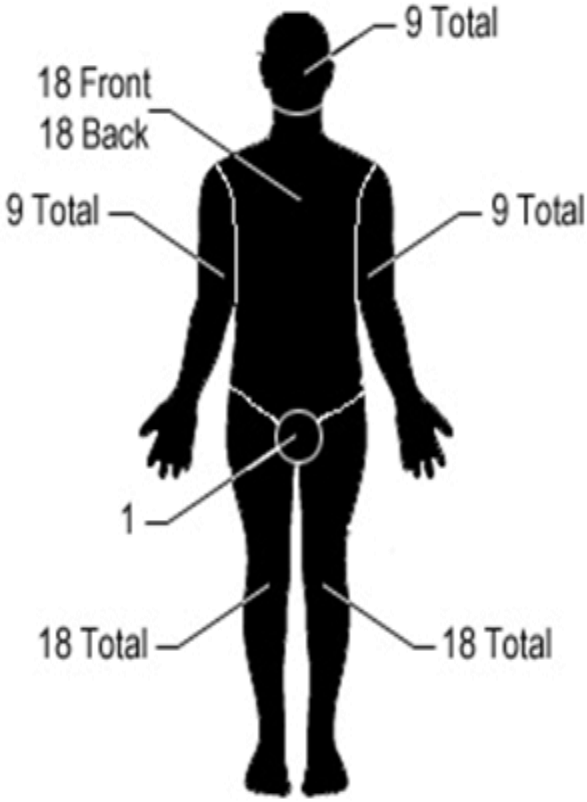
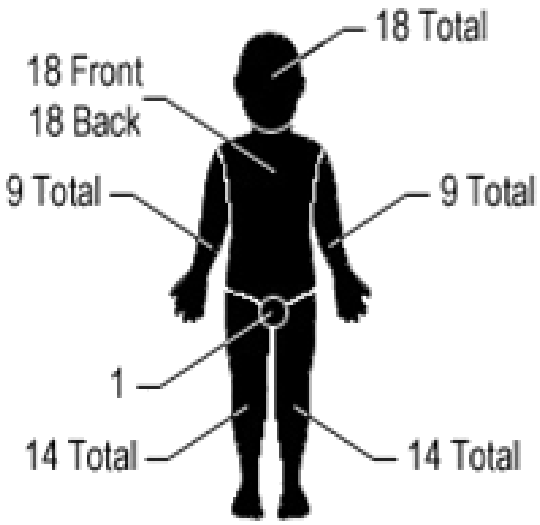
Burns: Rule of Nines

Total body surface area (TBSA) is an assessment measure of burns of the skin. In adults, the "Rule of Nines" is used to determine the total percentage of area burned for each major section of the body. In some cases, the burns may cover more than one body part, or may not fully cover such a part; in these cases, burns are measured by using the casualty's palm as a Resource point for 1% of the body.

Adult	
Anatomic structure	Surface area
Anterior head	4.5%
Posterior head	4.5%
Anterior torso	18%
Posterior torso	18%
Anterior leg, each	9%
Posterior leg, each	9%
Anterior arm, each	4.5%
Posterior arm, each	4.5%
Genitalia/perineum	1%





Child	
Anatomic structure	Surface area
Anterior head	9%
Posterior head	9%
Anterior torso	18%
Posterior torso	18%
Anterior leg, each	7%
Posterior leg, each	7%
Anterior arm, each	4.5%
Posterior arm, each	4.5%
Genitalia/perineum	1%

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Canadian C-Spine Rule

1. Any One <u>High-Risk</u> Factor Which Mandates Immobilization?
- Age over 65 years
  OR
- Dangerous mechanism*
  OR
- Numbness or tingling in extremities

NO

2. Any One <u>Low-Risk</u> Factor Which Allows Safe Assessment of Range of Motion?
- Simple rear end MVC**
  OR
- Ambulatory at any time at scene
  OR
- No neck pain at scene when asked
  OR (answer "yes" if no pain)
- No pain during midline c-spine palpation
  (answer "yes" if no pain)

YES

3. Patient Voluntarily Able to <u>Actively Rotate</u> Neck 45° Left and Right When Requested, Regardless of Pain?
- Patient voluntarily able to actively rotate neck 45 degrees to right and left
- If unable, immobilize

ABLE

No C-Spine Immobilization

C-Spine Immobilization

***Dangerous Mechanism:**
- fall from elevation ≥ 3feet or 5 stairs
- axial load to head, e.g. diving
- MVC high speed , rollover, ejection
- motorized recreational vehicles e.g. ATV
- bicycle collision with object e.g. post, car

****Simple Rear-end MVC Excludes**
- pushed into oncoming
- hit by bus/large truck
- rollover
- hit by high speed vehicle

2011 Guidelines for Field Triage of Injured Patients

Measure vital signs and level of consciousness

1

Glasgow Coma Scale	≤13
Systolic Blood Pressure (mmHg)	<90 mmHg
Respiratory Rate	<10 or >29 breaths per minute, or need for ventilatory support (<20 in infant aged <1 year)

YES → **Transport to a trauma center.** Steps 1 and 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of care within the defined trauma system.

NO

Assess anatomy of injury

2

- All penetrating injuries to head, neck, torso, and extremities proximal to elbow or knee
- Chest wall instability or deformity (e.g. flail chest)
- Two or more proximal long-bone fractures
- Crushed, degloved, mangled, or pulseless extremity
- Amputation proximal to wrist or ankle
- Pelvic fractures
- Open or depressed skull fracture
- Paralysis

YES → **Transport to a trauma center.** Steps 1 and 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of care within the defined trauma system.

NO

Assess mechanism of injury and evidence of high-energy impact

3

- **Falls**
  - — Adults: >20 feet (one story is equal to 10 feet)
  - — Children: >10 feet or two or three times the height of the child
- **High-risk auto crash**
  - — Intrusion, including roof: >12 inches occupant site; >18 inches any site
  - — Ejection (partial or complete) from automobile
  - — Death in same passenger compartment
  - — Vehicle telemetry data consistent with a high risk of injury
- **Auto vs. pedestrian/bicyclist thrown, run over, or with significant (>20 mph) impact**
- **Motorcycle crash >20 mph**

YES → **Transport to a trauma center,** which, depending upon the defined trauma system, need not be the highest level trauma center.

NO

Assess special patient or system considerations

4

- **Older Adults**
  - — Risk of injury/death increases after age 55 years
  - — SBP <110 may represent shock after age 65
  - — Low impact mechanisms (e.g. ground level falls) may result in severe injury
- **Children**
  - — Should be triaged preferentially to pediatric capable trauma centers
- **Anticoagulants and bleeding disorders**
  - — Patients with head injury are at high risk for rapid deterioration
- **Burns**
  - — Without other trauma mechanism: triage to burn facility
  - — With trauma mechanism: triage to trauma center
- **Pregnancy >20 weeks**
- **EMS provider judgment**

YES → **Transport to a trauma center** or hospital capable of timely and thorough evaluation and initial management of potentially serious injuries. Consider consultation with medical control.

NO

Transport according to protocol

When in doubt, transport to a trauma center.

Find the plan to save live, at www.cdc.gov/FieldTriage

National Center for Injury Prevention and Control
Division of Injury Response

CDC

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CHEMPACK - FACT SHEET

What is the CHEMPACK?
The CHEMPACK is a cache of antidotes for nerve agent or organophosphate exposure/toxicity.

What is CISM?
The Centers for Disease Control and Prevention's (CDC) CHEMPACK Program is a nationwide initiative for the placement of CHEMPACK caches in local communities.

The CHEMPACK program fills a void in emergency preparedness by placing timely, critical, and life-saving antidotes in communities where they will be readily available to EMS, Hospitals, Fire, Law Enforcement and other CHEMPACK response partners.

Georgia's CHEMPACK Program
Georgia's CHEMPACK program consists of more than 40 CHEMPACK sites pre-positioned throughout the state.

CHEMPACK assets can be requested and received quickly to support emergency response.
Training and additional support materials are available for EMS, Hospitals, Fire, Law Enforcement, and other CHEMPACK response system partners.

Georgia's Poison Center
The center provides clinical guidance for potential nerve agent or organophosphate exposure/toxicity.

The center also receives all requests for CHEMPACK assets and coordinates delivery.

CHEMPACK Container
CHEMPACK requests are scalable and will be configured based upon need.

The CHEMPACK is for use by first responders and hospital staff.

CHEMPACK Container Formulary Components
Mark I Nerve Agent Antidote Kit
Diazepam Auto-Injectors
Atropine, Pralidoxime, Diazepam Multi-Dose Vials
Atropen Pediatric Doses

CHEMPACK REQUESTS?
CALL
1-800-222-1222

Georgia Critical Incident Stress Foundation

Crisis Hotline: 404-419-6506

What is a Critical Incident?
A critical incident or traumatic event is defined as an event so stressful that it overwhelms the existing coping skills of the individual or group. After being exposed to the critical incident, an individual may experience a range of reactions, which are manifested physically, cognitively, behaviorally, and/or emotionally, and may interfere with one's ability to function at work and at home. The stress reaction may include, but is not limited to: fatigue, muscle tremors, rapid heart rate, confusion, poor attention, poor problem solving, nightmares, anxiety, grief, fear, depression, inappropriate emotional responses, withdrawal, changes in activity, etc. A critical incident often leads to increased absenteeism and poor work performance.

Critical Incidents:

- Suicide
- Violent crimes
- Homicide
- Death or violence to child
- Traffic accidents
- Mass casualty incidents
- Unexpected death
- School-related crisis
- Robbery
- Life threatening injury
- Natural disasters
- Workplace violence

What is the CHEMPACK Program?
Critical Incident Stress Management, or CISM, is a comprehensive, multi-component crisis intervention approach. CISM is considered to be comprehensive because it consists of multiple crisis intervention components, which functionally span the entire temporal spectrum of a crisis. CISM interventions range from the pre-crisis phase through the acute crisis phase, and into the post-crisis phase. CISM consists of interventions which may be applied to individuals, small functional groups, large groups, families, organizations, and communities.

The seven core components include:

1. Pre-crisis preparation
2. Disaster or large-scale incident
3. Defusing
4. Critical Incident Stress Debriefing (CISD)
5. One-on-one crisis intervention/counseling
6. Family crisis intervention and organizational consultation
7. Follow-up and referral mechanisms for assessment and treatment

Georgia Critical Incident Stress Foundation
GCISF is dedicated to the prevention and mitigation of disabling stress through the provision of education, training, crisis response support services and coordination for all at risk populations. They provide and promote consistent crisis response training relevant to the needs of Emergency Services, Law Enforcement, Critical Healthcare professionals, School systems, Mental Health professionals, and lay persons who are referred to as peer support providers. GCISF offers consultation and direction in the establishment of comprehensive crisis response programs to organizations and communities throughout the State of Georgia. Local GCISF networked CISM teams actively pursue the concept that no one should ever face the harmful effects of critical incident stress without appropriately trained, well-qualified assistance. GCISF maintains a 24/7/365 hotline for the coordination of crisis response activities.

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Emergency Medical Treatment and Active Labor Act (EMTALA)

EMTALA is a U.S. Act of Congress passed in 1986 as part of the Consolidated Omnibus Budget Reconciliation ACT (COBRA). It requires hospitals and ambulance services to provide care to anyone needing emergency healthcare treatment regardless of citizenship, legal status, or ability to pay. There are no reimbursement provisions. As a result of the act, patients needing emergency treatment can be discharged only under their own informed consent or when their condition requires transfer to a hospital that is better equipped to administer the treatment they need.

EMTALA was passed to combat the practice of "patient dumping", i.e. refusal to treat people because of their inability to pay or having insufficient insurance, or transferring or discharging emergency patients on the basis of high anticipated diagnosis and treatment costs. The law applies when an individual with a medical emergency "comes to the emergency department", regardless of whether the condition is visible to others, or is simply stated by the patient with no external evidence.

- Unstable patients may occasionally be transferred if essential services are not available at the sending hospital – "a higher level of care transfer".
- Patients being transferred from one acute care facility to another MUST have been accepted by the receiving facility. Ambulance crews should ensure that the appropriate arrangements have been made prior to the loading of the patient
- The ambulance crew should ensure that ALL transfer paperwork accompanies the patient
- If paramedics suspect that a transfer has the risk of being a possible EMTALA violation they should attempt to tactfully discuss the matter with the hospital personnel. The On-Duty Field Supervisor or Operations Manager should be a resource if the crew is in doubt about the appropriateness of the transfer.

Glasgow Coma Score

The Glasgow Coma Score (GCS) is the most widely used scoring system used in quantifying level of consciousness following traumatic brain injury. It is used primarily because it is simple, has a relatively high degree of interobserver reliability and because it correlates well with outcome following severe brain injury.

To obtain a GCS, first determines the best eye opening response, the best verbal response, and the best motor response using the chart below. The GCS represents the sum of the numeric scores of each of the categories.

Total = E+V+M = GCS

Glasgow Coma Score – Adults & Children		
Eye Opening	Verbal Response	Motor Response
4-Spontaneous	5-Oriented & converses	6-Obeys verbal commands
3-To verbal Commands	4-Disoriented & converses	5-Localizes pain
2-To pain	3-Inappropriate words	4-Withdraws from pain
1-No response	2-Inconprehensible sounds	3-Flexion

Modified Glasgow Coma Score – Infants		
Eye Opening	Verbal Response	Motor Response
4-Spontaneous	5-Coos, babbles	6-Spontaneous
3-To verbal Commands	4-Irritable cries	5-Localizes pain
2-To pain	3-Cries to pain	4-Withdraws from pain
1-No response	2-Moans, grunts	3-Flexion
	1-No response	2-Extension
		1-No response

Values

- A Score between 13 and 15 may indicate a mild head injury
- A score between 9 and 12 may indicate a moderate head injury
- A score of 8 or less indicate a severe head injury

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HIPPA Fact Sheet: Emergency Medical Services

Public Health Activities Protected by HIPAA

The comments to the preamble of the Privacy Rule explicitly protect state public health laws by making it clear that "nothing in this [Rule] shall be construed to invalidate or limit the authority, power, or procedures established under any law providing for the reporting of disease or injury, child abuse, birth or death, public health surveillance, or public health investigation or intervention."

HIPAA Does Not Preempt State Public Health Laws

The Privacy Rule specifically states that it does not preempt contrary state public health laws, including state procedures established under such laws that provide for the reporting of disease or injury, child abuse, birth or death, or for the conduct of public health surveillance, investigation, or intervention. [45 CFR 160.203 (a)(1)(iv)&(c)]

Public Health Authorities Defined

Public health authorities include state public health agencies (e.g., state public health departments, divisions, districts or regions); local public health agencies; and anyone performing public health functions under a grant of authority from a public health agency. [45 CFR 164.501]

Disclosures Required by Law

The Privacy Rule permits covered entities to disclose protected health information, without authorization, to public health authorities who are authorized by law to receive such reports for the purpose of preventing or controlling disease, injury, or disability and for conducting public health surveillance, investigations, or interventions. This includes federal, tribal, local or state laws (or state procedures established under such law) that provide for receiving reporting of disease, injury or conducting public health surveillance, investigation, or intervention. [45 CFR 164.512 (a)&(b)]

Public Health Authorities are Not Business Associates of Covered Entities

Public health authorities receiving information from covered entities as required or authorized by law [See 45 CFR 164.512 (a)&(b)] are not business associates of the covered entities and therefore are not required to enter into business associate agreements. [CDC MMWR, Vol. 52, page 8 (May 2003)]

Minimum Necessary Rule

Generally, a covered entity must make reasonable efforts to limit protected health information to the minimum necessary to accomplish the intended purpose of the use, disclosure, or request. [45 CFR 164.502 (b)]. However, covered entities are not required to make a minimum necessary determination for public health disclosures that are required by law. [45 CFR 164.502 (b)]. For disclosures to a public health authority, covered entities may reasonably rely on a requested disclosure, as the minimum necessary if the public health authority represents that the information requested is the minimum necessary for the stated purpose. [45 CFR 164.514 (d)(3)(iii)]

Accounting for Public Health Disclosures

The Privacy Rule provides for a simplified means of accounting because the vast amount of data exchanged between covered entities and public health authorities is made through ongoing regular reporting. For example, ambulance service providers are required by law regularly submit copies of prehospital care reports to regional offices that are part of the state

CONTINUED ON NEXT PAGE

HIPPA Fact Sheet (Continued)

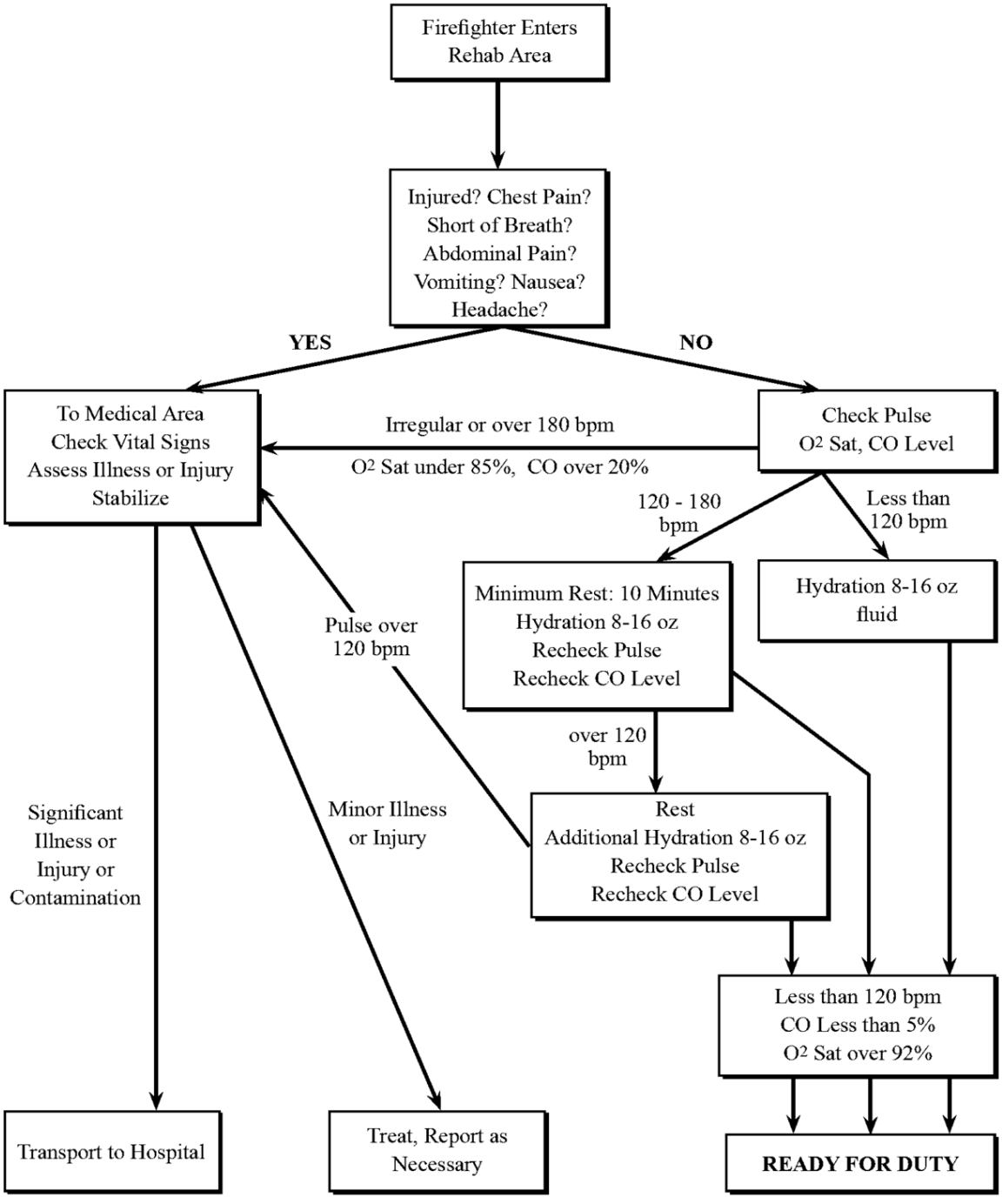
public health authority. In such cases, the covered entity need only identify the recipient of such repetitive disclosures (regional public health authority), the purpose of the disclosure (required for injury control and prevention), and describe the protected health information routinely disclosed. The date of each disclosure need not be tracked. Rather, the accounting may include the date of the first and last such disclosure during the accounting period (June 1, 2003 to July 1, 2003), and a description of the frequency or periodicity (monthly) of such disclosures. Therefore, the covered entity would not need to annotate each patient's medical record whenever a routine public health disclosure was made. [CDC MMWR, Vol. 52, page 9 (May 2003)]

Relevant State Laws:
O.C.G.A. § 31-11-5; Rules and Regulations for Ambulance Services
O.C.G.A. § 31-12-6; Records of Ambulance Services
DHR Rules and Regulations, Chapter 290-5-30; Emergency Medical Services

Sources:
U.S. Department of Health and Human Services
Office of Civil Rights
HIPAA Privacy - Disclosure for Public Health Activities (Revised April 3, 2003)
Summary of the HIPAA Privacy Rule (May 2003)
http://www.hhs.gov/ocr/hipaa/privacy.html

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
Morbidity and Mortality Weekly Report
Vol. 52 Supplement (May 2, 2003)
http://www.cdc.gov/mmwr/preview/ind2003_su.html

Firefighter Scene Assessment: Algorithm



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Firefighter Scene Assessment: Documentation

Fire Site: Date:	Name & Unit:										
Evaluation Time											
Initial Evaluation	Pulse Rate										
	O2 Sat										
	CO Level										
	Injuries?	Y	N	Y	N	Y	N	Y	N	Y	N
	Ill?	Y	N	Y	N	Y	N	Y	N	Y	N
	Other										

Deny Return to Duty if:

- Vomiting, Diarrhea, Heat Exhaustion last 72 hours
- Large Open Skin Wounds or Rash
- Insulin-using diabetic has not eaten in past 4 hours
- Wheezing or Congested Lungs
- Pulse over 120 or Irregular
- CO level over 5-8%

All Workers Hydrated 8-16 oz Water or Electrolyte Solution

Examination Time											
Second Evaluation	Pulse Rate										
	O2 Sat										
	CO Level										
	Injuries?	Y	N	Y	N	Y	N	Y	N	Y	N
	Ill?	Y	N	Y	N	Y	N	Y	N	Y	N

All workers Hydrated 8-16 oz Water or Electrolyte Solution

Examination Time											
Third Evaluation	Pulse Rate										
	O2 Sat										
	CO Level										
	Injuries?	Y	N	Y	N	Y	N	Y	N	Y	N
	Ill?	Y	N	Y	N	Y	N	Y	N	Y	N

To Hospital if:

- Symptoms of Heat Stroke
- Short of Breath
- Abnormal Lung Sounds
- Altered Mental Status
- Irregular Pulse
- Persistent Pulse over 180
- Significant Injury
- Chest Pain or Severe Headache

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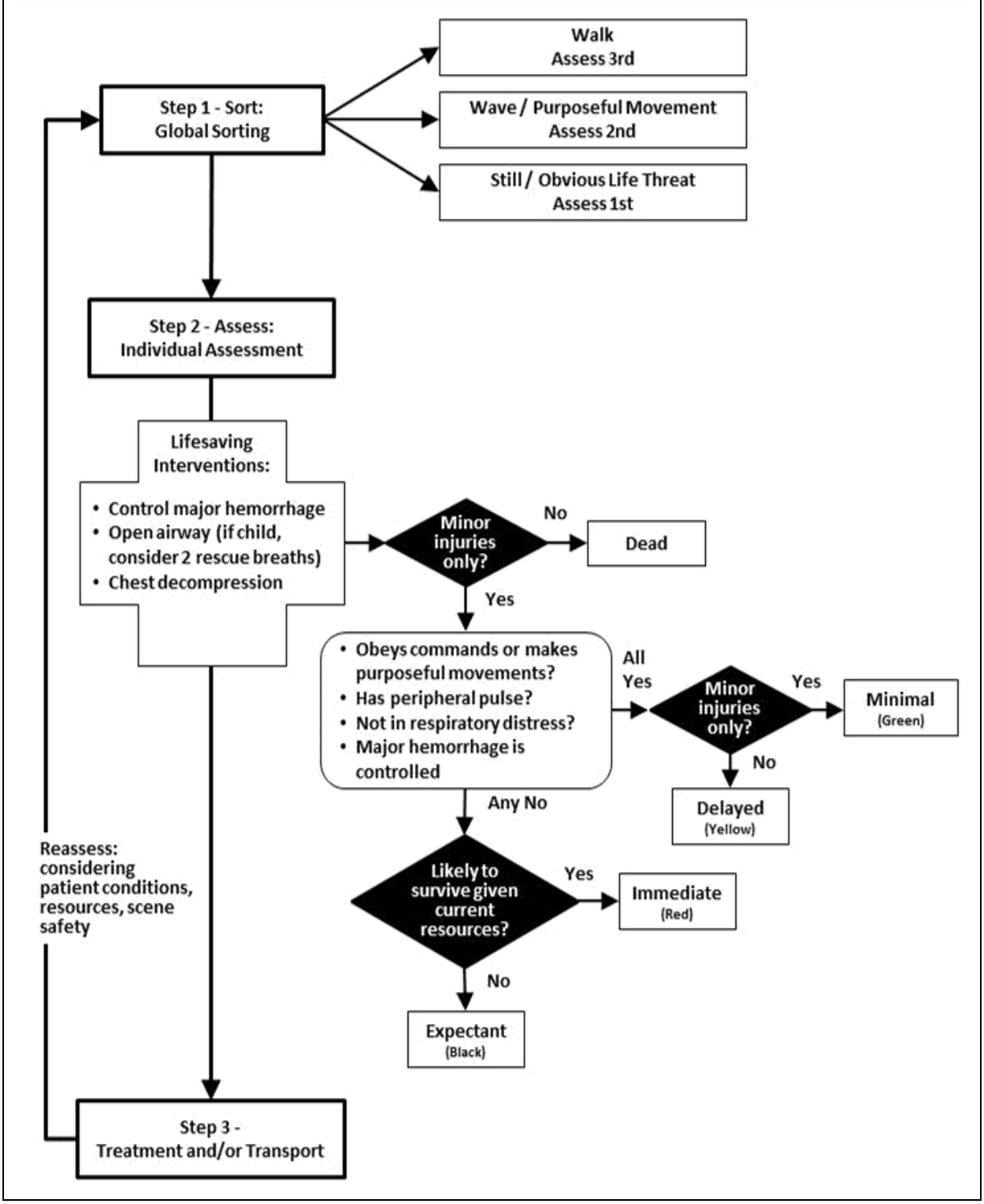
SALT MCI Triage Algorithm



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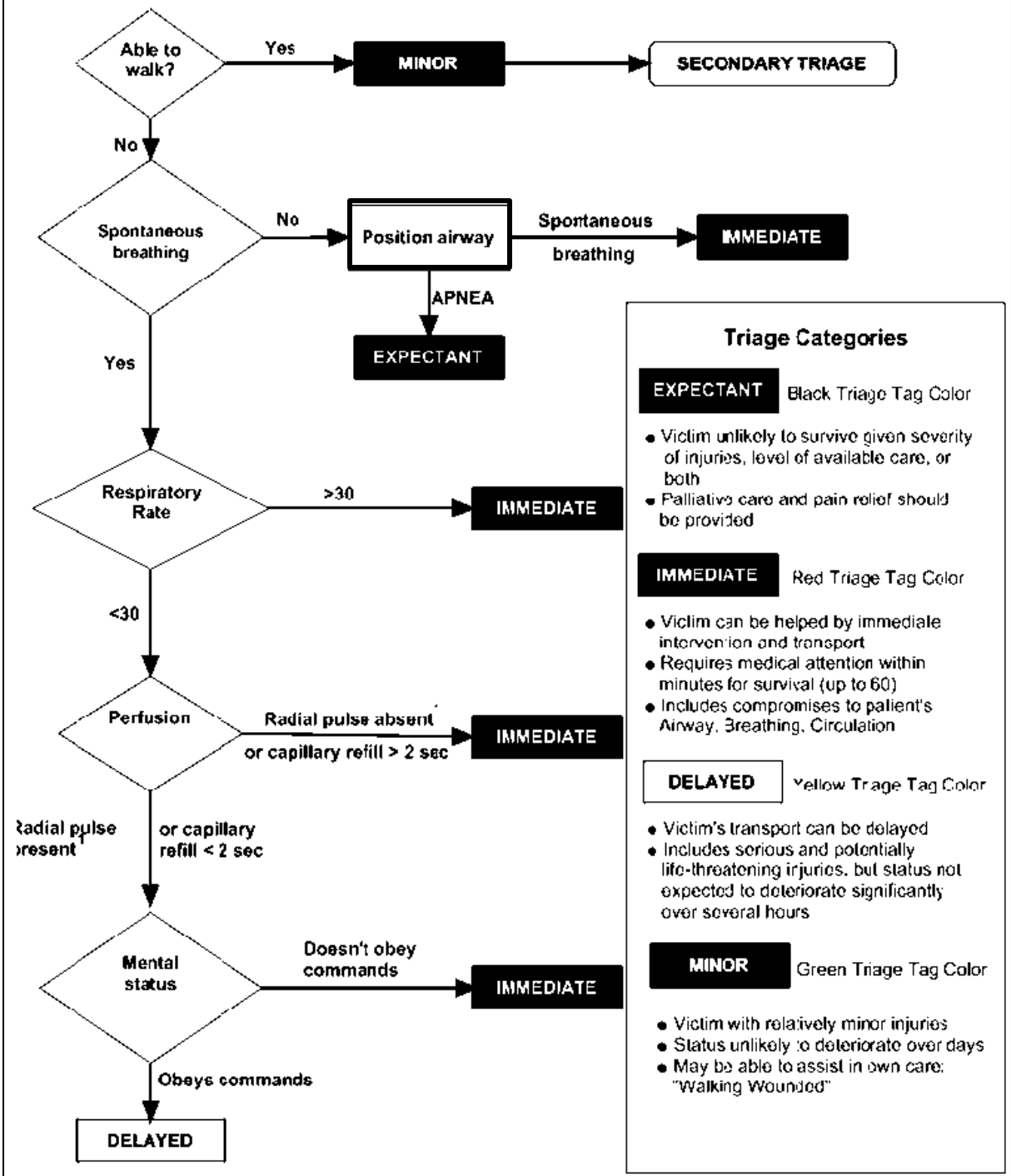
START MCI Triage Algorithm



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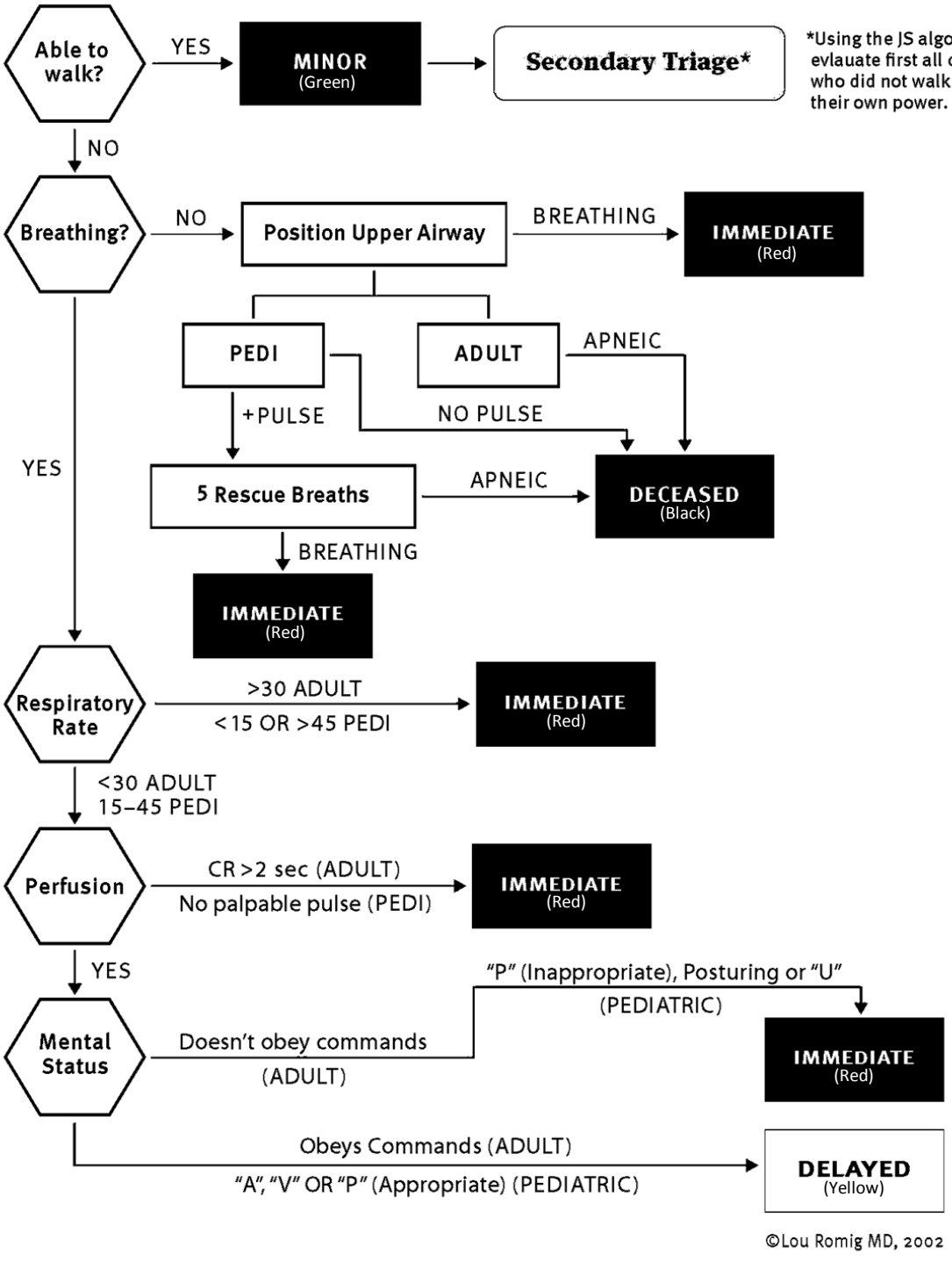
Combined START/JumpSTART Triage Algorithm

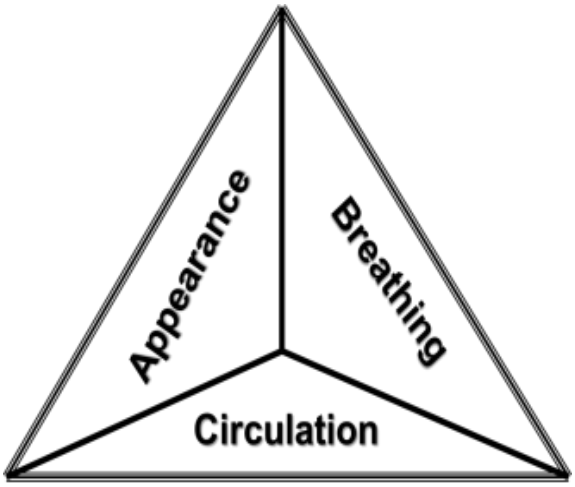


Pediatric Assessment Triangle (PAT)

The Pediatric Assessment Triangle (PAT) is a tool for medical professionals to rapidly assess a pediatric patient on sight and obtain a "first impression" of the child's condition. Using the PAT, an EMS provider can determine if a child is in immediate need of rapid transport or emergency treatment before a full assessment.

Below are the parameters to be assessed using the PAT.

Appearance	
Characteristic:	**Features to Look For:**
Tone	Good muscle tone OR limp, listless, flaccid
Interactivity	Alert, will reach for toy, light, OR is uninterested in playing or interacting
Consolability	Can be consoled OR crying or agitation is unrelieved
Look/Gaze	Fixes on face, object OR glassy eyed stare
Speech/Cry	Cry strong and spontaneous OR weak or high pitched. Is Speech age appropriate OR confused, garbled?



Breathing	
Characteristic:	**Features to Look For:**
Abnormal Airway Sounds	Snoring, muffled or hoarse speech, stridor, grunting, wheezing
Abnormal Positioning	Sniffing position, tripoding, refusing to lie down
Retractions	Supraclavicular, intercostal, sternal, retractions of the chest wall; head bobbing in infants
Flaring	Flaring of the nares on inspiration

Circulation/Skin Color	
Characteristic:	**Features to Look For:**
Pallor	White or pale skin or mucous membranes
Mottling	Patchy/lacey skin discoloration due to vasoconstriction/ vasodilation
Cyanosis	Bluish discoloration of skin/mucous membranes
Flaring	Flaring of the nares on inspiration

Normal Pediatric Vital Signs by Age and Weight:

Age	Weight (kilograms)	Pulse	Respirations	Systolic BP	Diastolic BP
Premature	1	145	< 60	42 +/- 10	21 +/- 8
Premature	1-2	135	< 60	50 +/- 10	28 +/- 8
Newborn	2-3	125	< 60	60 +/- 10	37 +/- 8
1 month	4	120	24-35	80 +/- 16	46 +/- 16
6 month	7	120	24-35	89 +/- 29	60 +/- 10
1 year	10	120	20-30	96 +/- 30	66 +/- 25
2-3 years	12-14	115	20-30	99 +/- 25	64 +/- 25
4-5 years	16-18	100	20-30	99 +/- 20	65 +/- 20
6-9 years	20-26	100	12-25	100 +/- 20	65 +/- 15
10-12 years	32-42	75	12-25	112 +/- 20	68 +/- 15
Over 14 years	> 50	70	12-18	120 +/- 20	75 +/- 15

Abnormal Vital Signs by Age:

Age	Pulse	Respirations	Systolic BP	Temperature
0 days - <1mo	<80 > 205	<30 > 60	<60	<36 >38
≥ 1 mo - < 3 mos	<80 > 205	<30 > 60	<70	<36 >38
≥ 3 mos – < 1 yr	<75 > 190	<30 > 60	<70	<36 >38.5
≥ 1 yr – < 2 yrs	<75 > 190	<24 >40	<70 + (age x 2)	<36 >38.5
≥ 2 yrs – < 4 yrs	<60 >140	<24 >40	<70 + (age x 2)	<36 >38.5
≥ 4 yrs – < 6 yrs	<60 >140	<22 >34	<70 + (age x 2)	<36 >38.5
≥ 6 yrs – < 10 yrs	<60 >140	<18 > 30	<70 + (age x 2)	<36 >38.5
≥ 10 yrs – < 13 yrs	<60 >100	<18 > 30	<90	<36 >38.5
≥ 13 yrs – < 18 yrs	<60 >100	<12 >18	<90	<36 >38.5

Georgia Department of Public Health	J. Patrick O'Neal, MD, State EMS Medical Director:	J Patrick O'Neal, M.D.
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Office of Emergency Medical Services and Trauma	INDEX	R-P11A
	EFFECTIVE	7/1/2011
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	PAGES	5
	VERSION	2011

Scope of Practice for EMS Personnel - Grayscale - PORTRAIT Version

Emergency Medical Personnel are permitted to perform only those skills listed under their licensure level, and only once they have been trained on those skills, and credentialed to perform those skills by the agency Medical Director. Emergency Medical Personnel are permitted to administer only medications listed under their licensure level, and only once they are trained in the pharmacology of that medication, and credentialed to administer that medication by the EMS agency Medical Director.

Key to Provider Levels		
EMT	E	Emergency Medical Technician
EMT-I	I	Emergency Medical Technician-Intermediate/1985
AEMT	A	Advanced Emergency Medical Technician
CT	C	Cardiac Technician
PMDC	P	Paramedic

NOTE: If a provider code (the single letter code from the table above) is listed for a skill, then that level of EMS Provider is permitted to perform the skill. Interpretive guidelines serve to clarify and/or modify the skill listed. If an asterisk (*) appears with the letter code for a specific provider level, then the interpretive guidelines may modify

Airway and Breathing Skills	Levels	Interpretive Guidelines
1. Supplemental oxygen therapy		
a. Oxygen delivery devices	E I A C P	*This would include any type of cannula or mask designed for the delivery of supplemental oxygen.*
b. Humidified oxygen	E I A C P	
2. Basic airway management		
a. Manual maneuvers to open and control the airway	E I A C P	*This would include procedures such as: head-tilt, chin-lift; tongue-jaw lift; modified chin lift; jaw thrust; Sellick's maneuver.*
b. Manual maneuvers to remove an airway obstruction	E I A C P	
c. Insertion of airway adjuncts intended to go into the oropharynx	E I A C P	
d. Insertion of airway adjuncts intended to go into the nasopharynx	E I A C P	
3. Ventilation management		
a. mouth to barrier devices	E I A C P	
b. bag-valve-mask	E I A C P	
c. manually triggered ventilators	E I A C P	
d. automatic transport ventilators	E* I* A* C P	*EMTs, EMT-Is and AEMTs are limited to the initiation during resuscitative efforts of ventilators that only adjust rate and tidal volume.*
e. chronic-use home ventilators	E I A C P	

CONTINUED ON NEXT PAGE

Airway and Breathing Skills	Levels	Interpretive Guidelines
4. Suctioning		
a. Upper airway suctioning	E I A C P	
b. Tracheobronchial suctioning	A* C P	*AEMTs are limited to tracheobronchial suctioning of patients with pre-established airways.*
5. Advanced airway management		
a. CPAP/BiPAP administration and management	I A C P	
b. BIAD (Blind Insertion Airway Device) Insertion	I* A* C P	*This would also permit the removal of a BIAD under medically appropriate circumstances for the specified levels. EMT-Is are limited to insertion of devices not intended to be placed into the trachea. AEMTs are limited to insertion of devices not intended to be placed into the trachea.*
c. Endotracheal intubation	C P	*This includes nasal and oral endotracheal intubation. This would also allow the CT or Paramedic to extubate the patient for medically necessary reasons. This would include the use of PEEP and EtCO2/Capnography as necessary.*
d. Airway obstruction removal by direct laryngoscopy	C P	
e. Percutaneous Cricothyrotomy	P*	*This would include retrograde intubation techniques. Paramedics are not permitted to make a surgical incision of the cricothyroid membrane; paramedics may perform skin incision with a surgical blade for the purpose of the percutaneous cricothyrotomy.*
f. Gastric decompression	P	
g. Pleural decompression via needle thoracostomy	P	
h. Chest tube monitoring	P	

Assessment Skills	Levels	Interpretive Guidelines
1. Basic assessment skills		
a. Perform simple patient assessments	E I A C P	
b. Perform comprehensive patient assessments	E I A C P	
c. Obtaining vital signs manually	E I A C P	*Includes the use of a manual BP cuff.*
2. Advanced assessment skills		
a. Obtaining vital signs with electronic devices	E I A C P	*This would include the use of non-Invasive blood pressure monitoring devices, as well as pulse oximetry measurement and blood glucose monitoring.*
b. Blood Chemistry Analysis	P	

Pharmacological Intervention Skills	Levels	Interpretive Guidelines
1. Fundamental pharmacological skills		
a. Use of unit dose commercially pre-filled containers or auto-injectors for the administration of life saving medications intended for self, peer, or patient rescue in hazardous materials situations	E I A C P	
b. Assist patients in taking their own prescribed medications as approved by medical direction	E I A C P	
c. Administration of over-the-counter medications with appropriate medical direction	E I A C P	*Includes oral glucose for hypoglycemia and aspirin for chest pain of suspected ischemic origin.*

EMT E | EMT-I I | AEMT A | CT C | PMDC P

CONTINUED ON NEXT PAGE

Pharmacological Intervention Skills	Levels	Interpretive Guidelines
2. Advanced pharmacological skills: venipuncture/vascular access		
a. Obtaining peripheral venous blood specimens	I A C P	*This is either through direct venipuncture or through an existing peripheral IV catheter.*
b. Peripheral IV insertion and maintenance (includes removal as needed)	I A C P	*This includes placement of an INT/Saline lock. Peripheral lines include external jugular veins, but does not include placement of umbilical catheters.*
c. Intraosseus device insertion (includes removal as needed)	I A C P	*This includes placement in both adult and pediatric patients. This also includes both manual and mechanically assisted devices as approved by the local EMS medical director.*
d. Access indwelling catheters and implanted central IV ports for fluid and medication administration.	C P	
e. Central line monitoring	C P	

CONTINUED ON NEXT PAGE

Pharmacological Intervention Skills	Levels	Interpretive Guidelines
3. Administration of medications/fluids		
a. Crystalloid IV solutions	I* A* C P	*This includes hypotonic, isotonic, and hypertonic solutions as approved by medical direction. This also includes combination solutions (i.e. D5LR, D5NS, etc.). EMT-Is are limited to the initiation of crystalloid solutions that do not have added pharmacological agents. AEMTs are limited to the initiation of crystalloid solutions that do not have added pharmacological agents.*
b. Administration of hypertonic dextrose solutions for hypoglycemia	I A C P	*Hypertonic dextrose solutions may be given IV/IO.*
c. Administration of glucagon for hypoglycemia	A C P	*Glucagon may be administered via IM, SC, IV, IO or intranasal routes as approved by the local EMS medical director.*
d. Administration of SL nitroglycerine to a patient experiencing chest pain of suspected ischemic origin	A C P	
e. Parenteral administration of epinephrine for anaphylaxis	E* I* A* C P	*EMTs may only administer epinephrine via an auto-injector. EMT-Is may only administer epinephrine via an auto-injector. AEMTs may prepare and administer epinephrine only via the IM and SC routes.*
f. Inhaled (nebulized) medications to patients with difficulty breathing and/or wheezing	E* I* A C P	*Inhaled (nebulized) means atomization of the medication through an oxygen/air delivery device with a medication chamber, or through use of a metered-dose inhaler. EMTs may only administer pre-measured unit doses of nebulized medications. EMT-Is may only administer pre-measured unit doses of nebulized medications.*
g. Administration of a narcotic antagonist to a patient suspected of narcotic overdose	A C P	*Administration may be via IM, SC, IV, IO, or Intranasal routes as approved by the local EMS medical director.*
h. Administration of nitrous oxide (50% nitrous oxide, 50% oxygen mix) for pain relief	A C P	
i. Vaccine administration	I* A* C* P	*EMT-Is, AEMTs and CTs are allowed to administer vaccinations only during designated events such as mass vaccination clinics or in the event of a declared public health emergency, and only after training through an OEMST training course.*
j. Paralytic administration	P*	*Administration of paralytics for the purposes of RSI (Rapid Sequence Induction/Intubation) is not permitted unless the EMS Agency has met RSI requirements promulgated by the OEMST, and has received approval for RSI use from the OEMST. Paramedics are allowed to use paralytics to maintain the paralysis of an already intubated patient, if approved by medical direction.*
k. Administration of other physician approved medications	C* P*	*CTs are only permitted to give the following: anti-arrhythmics, vagolytic agents, chronotropic agents, alkalizing agents, analgesic agents, and vasopressor agents. Paramedics are allowed to give any medication via any enteral or parenteral route, as approved by medical direction (see RSI note above).*

EMT E | EMT-I I | AEMT A | CT C | PMDC P

CONTINUED ON NEXT PAGE

Pharmacological Intervention Skills	Levels	Interpretive Guidelines
3. Administration of medications/fluids		
l. Maintain an infusion of blood or blood products	P	

Cardiac/Medical Skills	Levels	Interpretive Guidelines
1. Fundamental cardiac skills		
a. Manual external CPR	E I A C P	
b. Use of an automated external defibrillator	E I A C P	
2. Advanced cardiac skills		
a. Use of mechanical CPR assist devices	E I A C P	
b. ECG monitoring and interpretation	C P	*This includes obtaining and interpreting 12-Lead ECGs.*
c. Manual cardiac defibrillation	C* P	*CTs may only defibrillate a pulseless and apneic patient.*
d. Emergency cardioversion, including vagal maneuvers	C P	
e. Transcutaneous cardiac pacing	C P	
3. Emergency childbirth management		
a. Assist in the normal delivery of a newborn	E I A C P	
b. Assist in the complicated delivery of a newborn	E I A C P	*This includes external fundal massage for post-partum bleeding, but does NOT include internal fundal massage.*
4. Behavioral emergency skills		
a. Manual and mechanical patient restraints for behavioral emergencies	E I A C P	*Includes soft disposable restraints and leather restraints, as approved by the local EMS medical director, and with appropriate patient monitoring.*
b. Chemical restraint of combative patients	P	*See pharmacological skills.*

Trauma Care Skills	Levels	Interpretive Guidelines
1. Managing injuries, including, but not limited to:		
a. Manual cervical stabilization and cervical collar use	E I A C P	
b. Manual stabilization of orthopedic trauma	E I A C P	
c. Spinal motion restriction	E I A C P	*Includes the use of commercial spinal motion restriction devices such as the KED®.*
d. Splinting	E I A C P	*This includes the use of traction splints.*
e. MAST/PASG Use (no longer approved for use in Georgia)		
2. Managing other traumatic injuries, including, but not limited to:		
a. Fundamental bleeding control	E I A C P	*Includes direct pressure and bandaging.*
b. Progressive bleeding control	E I A C P	*Includes the use of tourniquets and hemostatic agents as approved by the local EMS medical director.*
c. Fundamental eye irrigation	E I A C P	
d. Complex eye irrigation with the Morgan® lens	P	
e. Fundamental management of soft-tissue injuries	E I A C P	
f. Complex management of soft-tissue injuries	E I A C P	
3. Movement/extrication of patients, including, but not limited to:		
a. Emergency moves for endangered patients	E I A C P	
b. Rapid extrication of patients	E I A C P	

EMT E | EMT-I I | AEMT A | CT C | PMDC P

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Search and Rescue Activation

Georgia Search and Rescue

Georgia Search and Rescue (GSAR) Teams provide the knowledge and resources to safely and effectively implement technical rescue services. GSAR is one of the few state-initiated heavy search and rescue programs in the nation and receives funding through the U.S. Department of Homeland Security Office of Domestic Preparedness. The state's eight teams, made up of local firefighters, law enforcement and other emergency management personnel can respond to incidents anywhere in Georgia within two hours. Each GSAR team member undergoes approximately 400 hours of search and rescue training to receive certification.

Search and Rescue Activation

To request a search and rescue resource, the on-scene commander should contact their local 911 and have the county EMA Director contact GEMA to request the resource.

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Sedation Assisted Intubation Best Practices Guidelines

In response to frequent requests to EMSMDAC and the State Office of EMS and Trauma for clarification regarding use of paralytics and/or induction agents in the field to facilitate endotracheal intubation, a subcommittee of EMSMDAC has developed a best-practices guideline. This guideline was unanimously accepted by EMSMDAC on October 23, 2012.

The guideline document follows. Please direct comments or questions to Dr. Robert Cox, EMSMDAC Chair (rjcox@aol.com) or Dr. Jill Mabley, deputy medical director, Office of EMS and Trauma (jamabley@dhr.state.ga.us).

Georgia EMS Medical Directors Advisory Council

Sedation Assisted Intubation Best Practices Guidelines
October 2012

Introduction:

Airway management by prehospital providers is currently an area of active research and many important questions remain unanswered. This statement is particularly true regarding the safety and efficacy of paralytics and sedatives during endotracheal intubation (ETI) by paramedics. Because of the concerns of increased morbidity and mortality demonstrated in several studies, rapid sequence intubation (RSI) by paramedics remains prohibited in Georgia, however, sedation assisted intubation (SAI) is an allowable procedure. Although the research evaluating SAI is not as robust as RSI, it has not been proven to be superior to ETI without pharmacologic assistance. In light of these findings, the Georgia EMS Medical Directors Advisory Council (EMSMDAC) recommends developing and following a rigorous training and quality assurance system if the service and local medical director choose to perform SAI in the field. To assist in the process, EMSMDAC has developed some best practices recommendations which are detailed below.

Best Practices for SAI:

1. SAI should only be attempted if other less invasive airway management procedures have failed.
2. The procedure should be limited to those paramedics that the local medical director has personally evaluated and documented as capable of performing SAI. Credentialing of paramedics for SAI should be done on an annual basis.
3. SAI medications should be issued only to those paramedics credentialed by the local medical director to perform SAI.
4. Paramedics must have a mandatory minimum number of successful intubations per year to continue to perform SAI, as determined by the local medical director.
5. Continuous pulse oximetry throughout the event and waveform capnography post intubation must be used. Paramedics should fully understand the association between hypoxia and hyper / hypocapnia and poor outcomes, especially in patients with traumatic brain injury. Diligent efforts should be taken to prevent and manage hypoxia and hyper / hypocapnia.
6. If SAI is attempted, a backup airway device (e.g. a supra-glottic device) must be immediately available.
7. The local medical director should frequently review the quality assurance data to identify and address problems that could affect the health and safety of patients undergoing this procedure.
8. The medical director should culture a collaborative relationship between him/herself and the facilities that are receiving their patients so that outcome data can be utilized to improve and/or modify SAI practices. Such outcome measures should include data such as malposition airways, evidence of aspiration, hospital acquired pneumonia, prolonged mechanical ventilation and death.

CONTINUED ON NEXT PAGE

Sedation Assisted Intubation Best Practices Guidelines (Continued)

Additionally, we recommend the collection of these specific data for each event of SAI:

1. Indication for intubation
2. Reason for use of sedative/induction agent
3. Outcome of attempt (i.e. successful, number of attempts, complications, etc.)
4. Pre and post vital signs including SpO2
5. Highest and lowest SpO2 during the event
6. Continuous waveform capnography
7. Any complications surrounding the procedure
8. Documented confirmation of endotracheal tube placement by receiving physician

Finally, for more in depth and specific guidance in the development and maintenance of an SAI program, we recommend the National Association of EMS Physicians (NAEMSP) position paper on Drug Assisted Intubation in the Prehospital Setting:

http://www.naemsp.org/Documents/Drug%20Assisted%20Intubation%20New.pdf

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CINCINNATI PREHOSPITAL STROKE SCALE

UNIFORM DOCUMENT FOR GEORGIA EMS PROVIDERS

DATE:		TIME OF ASSESSMENT:	
ASSESSED BY:		SERVICE:	

NAME OF PATIENT:	

FACIAL DROOP	
	NORMAL: BOTH SIDES OF FACE MOVE EQUALLY
	ABNORMAL: ONE SIDE OF FACE DOES NOT MOVE AT ALL

ARM DRIFT	
	NORMAL: BOTH ARMS MOVE EQUALLY OR NOT AT ALL
	ABNORMAL: ONE ARM DRIFTS COMPARED TO THE OTHER

SPEECH: HAVE THE PATIENT STATE THE FOLLOWING SENTENCE YOU CAN'T TEACH AN OLD DOG NEW TRICKS.	
	NORMAL: PATIENT USES CORRECT WORD WITH NO SLURRING
	ABNORMAL: SLURRED OR INAPPROPRIATE WORDS OR MUTE

TIME: LAST SEEN NORMAL	
	ACTUAL TIME IF KNOWN
	UNKNOWN

WITNESS	
	NAME OF WITNESS IF KNOWN
	CONTACT TELEPHONE NUMBER OF WITNESS

Form Revised 11/14/2011
Version 4

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Stroke Thrombolytic Checklist

This checklist is intended as a tool for the pre-hospital identification of patients who may benefit from the administration of thrombolytics for acute stroke.

Date:_____ Time:_____Unit: _____ PSS:_____

Patient Name:_____ Age:_____ Est.Wt:_____lbs/kg

Time last seen at baseline: _____
Time of symptom onset: _____
Onset Witnessed or reported by: _____

Symptoms (circle abnormal findings)

ANY ONE FINDING = POSSIBLE STROKE

FACIAL DROOP: R L

ARM DRIFT: R L

SPEECH: slurred wrong words mute

Possible Contraindications (check all that apply)

Current use of anticoagulants (e.g., warfarin sodium)	Yes	No	?
Has blood pressure consistently over 180/110 mm Hg	Yes	No	?
Witnessed seizure at symptom onset	Yes	No	?
History of intracranial hemorrhage	Yes	No	?
History of GI or GU bleeding, ulcer, varices	Yes	No	?
Is within 3 months of prior stroke	Yes	No	?
Is within 3 months of serious head trauma	Yes	No	?
Is within 21 days of acute myocardial infarction	Yes	No	?
Is within 21 days of lumbar puncture	Yes	No	?
Is within 14 days of major surgery or serious trauma	Yes	No	?
Is pregnant	Yes	No	?
Abnormal blood glucose level (<50 or >400) – FSBS (if done):	Yes	No	?

Have you identified any contraindications to thrombolytic therapy? ☐ YES ☐ NO

Receiving Site/Physician: _____Time_____
EMT #_____Signature_____

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Georgia Designated Trauma & Specialty Care Centers

FACILITY	CITY	COUNTY	NUMBER
LEVEL I			
Atlanta Medical Center	Atlanta	FULTON	404-265-6577
Grady Memorial Hospital	Atlanta	FULTON	404-616-6200
Medical Center of Central Ga. Inc.*	Macon	BIBB	478-633-1584
GA Health Sciences Medical Center*	Augusta	RICHMOND	707-721-3153
Memorial Health Univ. Medical Center*	Savannah	CHATHAM	912-350-8861
LEVEL II			
Athens Regional Medical Center	Athens	CLARKE	706-475-3020
Floyd Medical Center	Rome	FLOYD	706-509-5000
Gwinnett Medical Center	Lawrenceville	GWINNETT	678-312-4321
Hamilton Medical Center	Dalton	WHITFIELD	706-272-6150
John D. Archbold Memorial Hospital	Thomasville	THOMAS	229-228-2834
Medical Center-Columbus	Columbus	MUSCOGEE	706-571-1901
North Fulton Hospital	Roswell	FULTON	770-751-2559
Wellstar Kennestone Hospital	Marietta	COBB	770-793-5000
LEVEL III			
Clearview Regional Medical Center	Monroe	WALTON	770-267-1781
Taylor Regional Hospital	Hawkinsville	PULASKI	478-783-0369
LEVEL IV			
Effingham Health System	Springfield	EFFINGHAM	912-754-6451
Emanuel Medical Center	Swainsboro	EMANUEL	478-289-1100
Lower Oconee Community Hospital	Glenwood	WHEELER	912-523-5113
Morgan Memorial Hospital	Madison	MORGAN	706-752-2261
Wills Memorial Hospital	Washington	WILKES	706-678-2151
Specialty Care Centers			
Pediatric Trauma Centers			
Childrens Healthcare of Atlanta @ Egleston (Level I)	Atlanta	DEKALB	404-785-6405
Childrens Healthcare of Atlanta @ Scottish Rite (Level II)	Atlanta	FULTON	404-785-2275
Designated Burn Centers			
Joseph M. Still Burn Center	Augusta	RICHMOND	706-651-6399
Grady Burn Center	Atlanta	FULTON	404-616-6178

*Designated Adult Level 1 Trauma Centers with Pediatric Commitment

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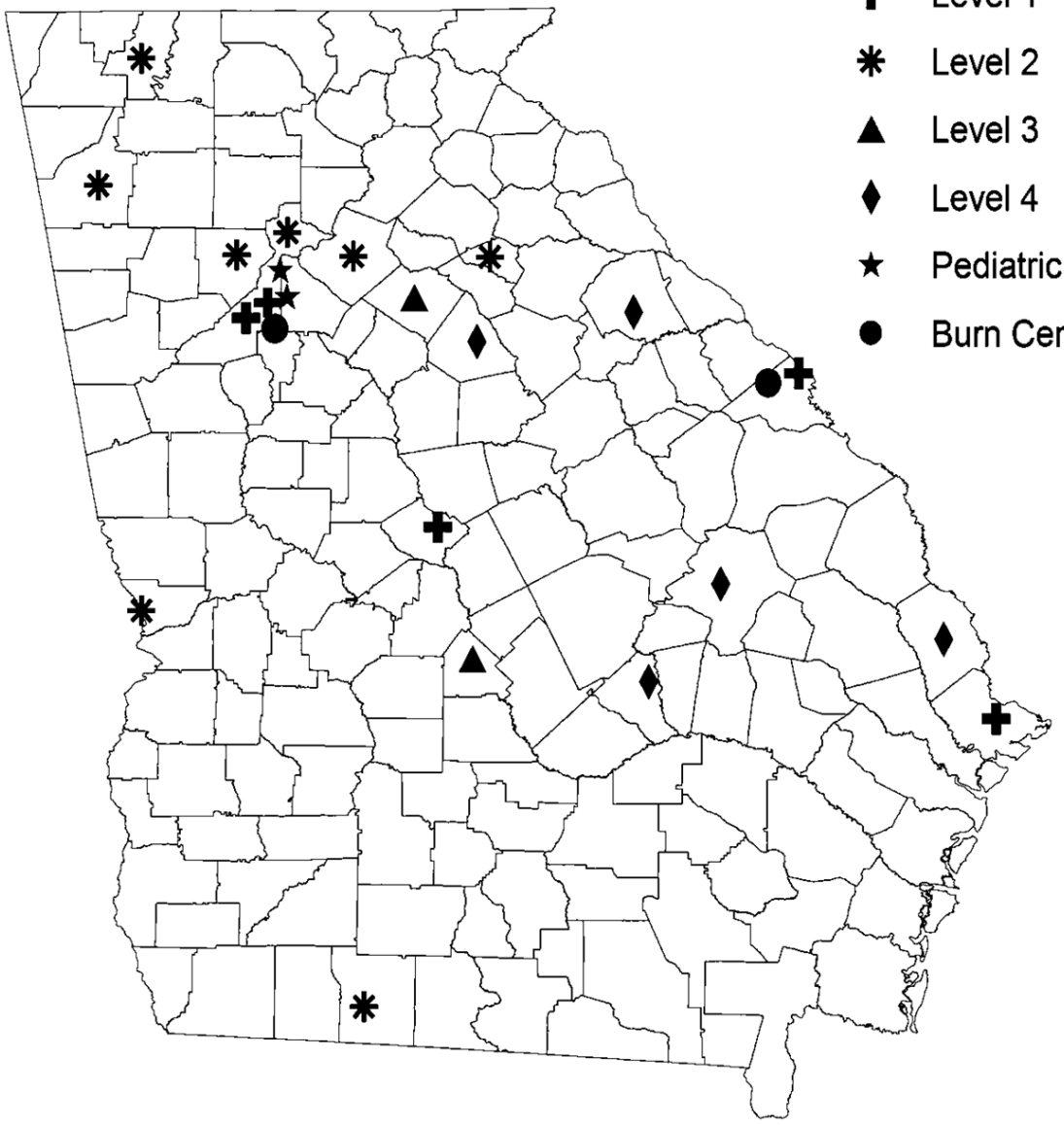
Georgia Designated Trauma & Specialty Care Centers



Source: Georgia Department of Public Health, Office of EMS/Trauma

08/22/2012

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Trauma Communications Center

Toll Free: 866.556.3314
Free Mobile to Mobile: 478.993.4478

The Georgia Trauma Communications Center coordinates Trauma System activities by maintaining and providing information on designated trauma center status and, when appropriate, on pre-hospital capabilities. This information is used to ensure that patients meeting Trauma System Entry Criteria (same as CDC field triage criteria) have access to definitive trauma care at an appropriate level of designated trauma center. The Georgia Trauma Communications Center is continually staffed by personnel with specific and in-depth knowledge of trauma system design, function, and protocols.

The Georgia Trauma Communications Center operates through statewide guidelines and region-specific protocols established by the Georgia Trauma Commission, and Regional Trauma Advisory Committees. The Georgia Trauma Communications Center ONLY provides information and recommendations about patient destination as per pre-established regional protocols for System function. The Georgia Trauma Communications Center serves as an information resource for EMS providers, Trauma Centers and non-designated participating hospitals. The general functions of the Georgia Trauma Communications Center are:

- Provide destination recommendations to EMS and hospital providers for trauma patients meeting Trauma System Entry Criteria.
- Provide Trauma Center and non-designated participating hospital resource availability information when requested by EMS and hospital providers.
- Provide information on System entry criteria based on statewide guidelines as requested by EMS and hospital providers;
- Assign a unique System I.D. number for each patient meeting Trauma System Entry Criteria;
- Collect brief pre-hospital database information;
- Maintain available resource information and the functional status of all System Trauma Centers and non-designated participating hospitals at all times and, when appropriate, knowledge of System's pre-hospital capabilities;
- Provide information regarding secondary triage status of the patient based on statewide guidelines and approved regional protocols;
- Establish dependable communication link between field EMS provider and receiving facility;
- Record and enter pre-hospital data for the Trauma System Communications Database;
- Arrange inter-facility transfers of Trauma System patients between Trauma Centers and non-designated participating hospitals; and,
- Coordinate communication for optimal resource utilization using pre-established statewide guidelines and regional protocols for medical surge during mass casualty incidents or public health emergencies.
- To access the Georgia Trauma Communications Resource Center:

Toll Free: 866.556.3314 **Free Mobile to Mobile: 478.993.4478**

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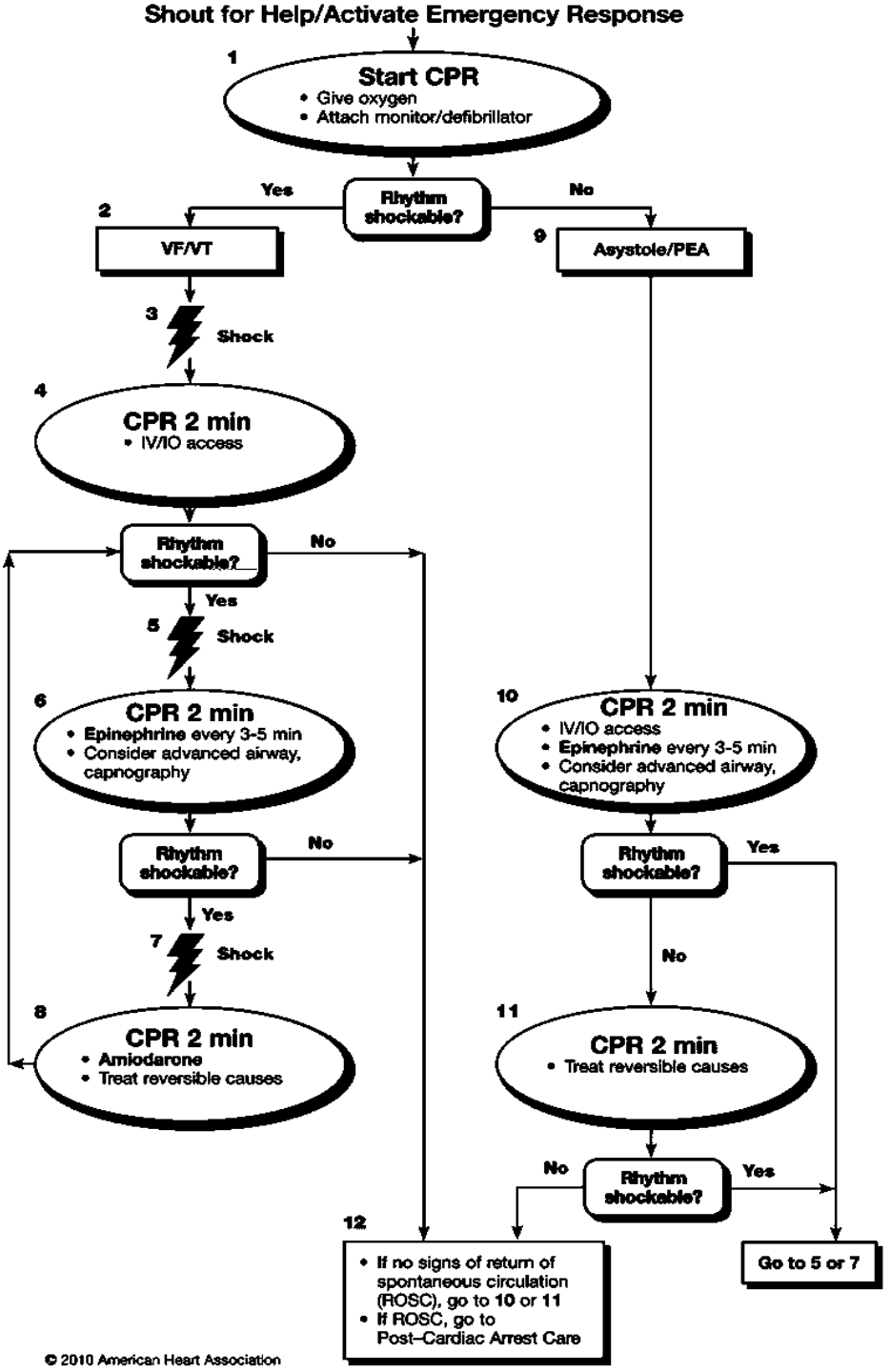
American Heart Association Algorithm: Adult Cardiac Arrest



CPR Quality
- Push hard (≥2 inches [5 cm]) and fast (≥100/min) and allow complete chest recoil
- Minimize interruptions in compressions
- Avoid excessive ventilation
- Rotate compressor every 2 minutes
- If no advanced airway, 30:2 compression-ventilation ratio
- Quantitative waveform capnography
  - If P_{ETCO_2} <10 mm Hg, attempt to improve CPR quality
- Intra-arterial pressure
  - If relaxation phase (diastolic) pressure <20 mm Hg, attempt to improve CPR quality

Return of Spontaneous Circulation (ROSC)
- Pulse and blood pressure
- Abrupt sustained increase in P_{ETCO_2} (typically ≥40 mm Hg)
- Spontaneous arterial pressure waves with intra-arterial monitoring

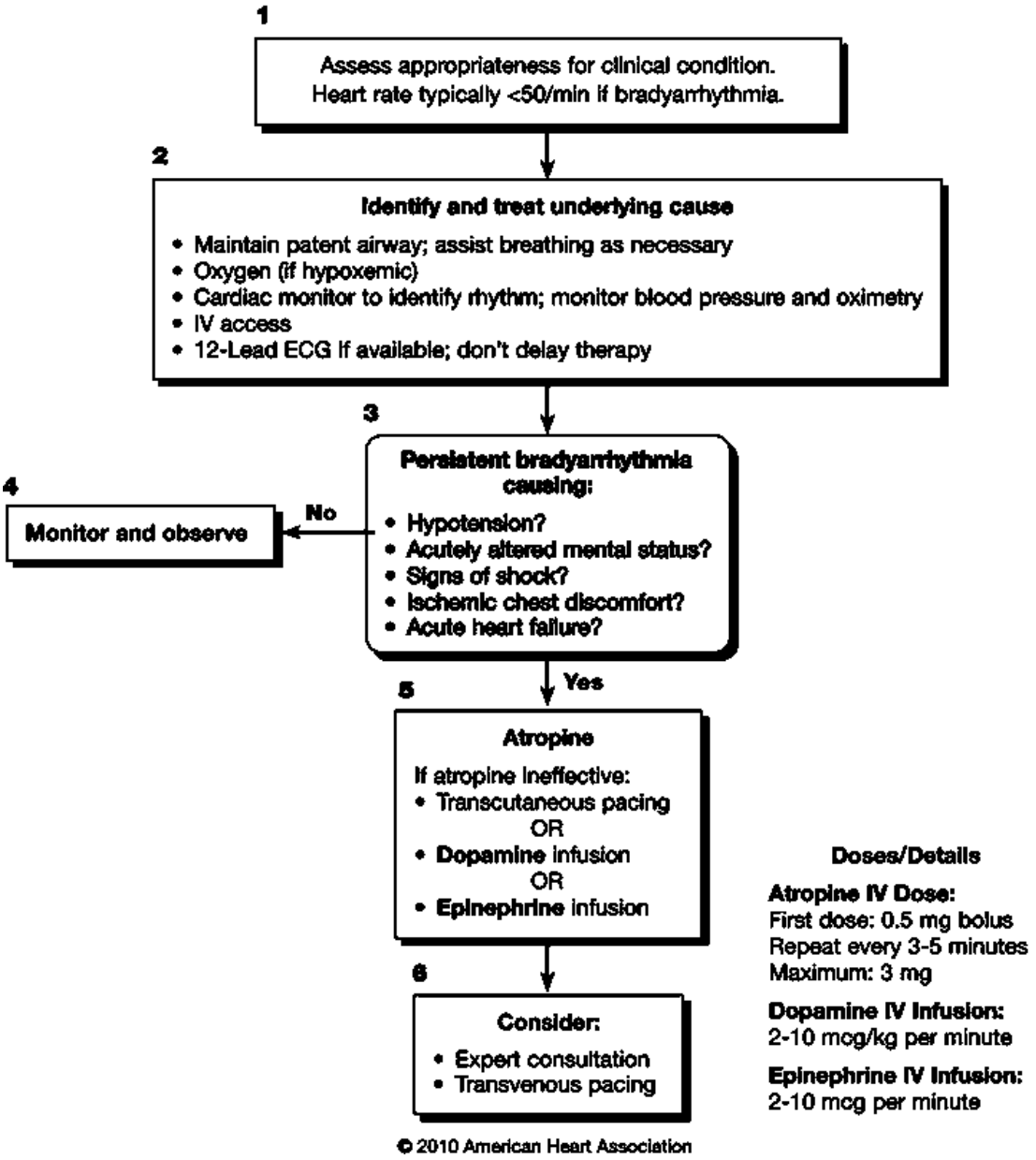
Shock Energy
- **Biphasic:** Manufacturer recommendation (eg, initial dose of 120-200 J); if unknown, use maximum available. Second and subsequent doses should be equivalent, and higher doses may be considered.
- **Monophasic:** 360 J

Drug Therapy
- **Epinephrine IV/IO Dose:** 1 mg every 3-5 minutes
- **Vasopressin IV/IO Dose:** 40 units can replace first or second dose of epinephrine
- **Amiodarone IV/IO Dose:** First dose: 300 mg bolus. Second dose: 150 mg.

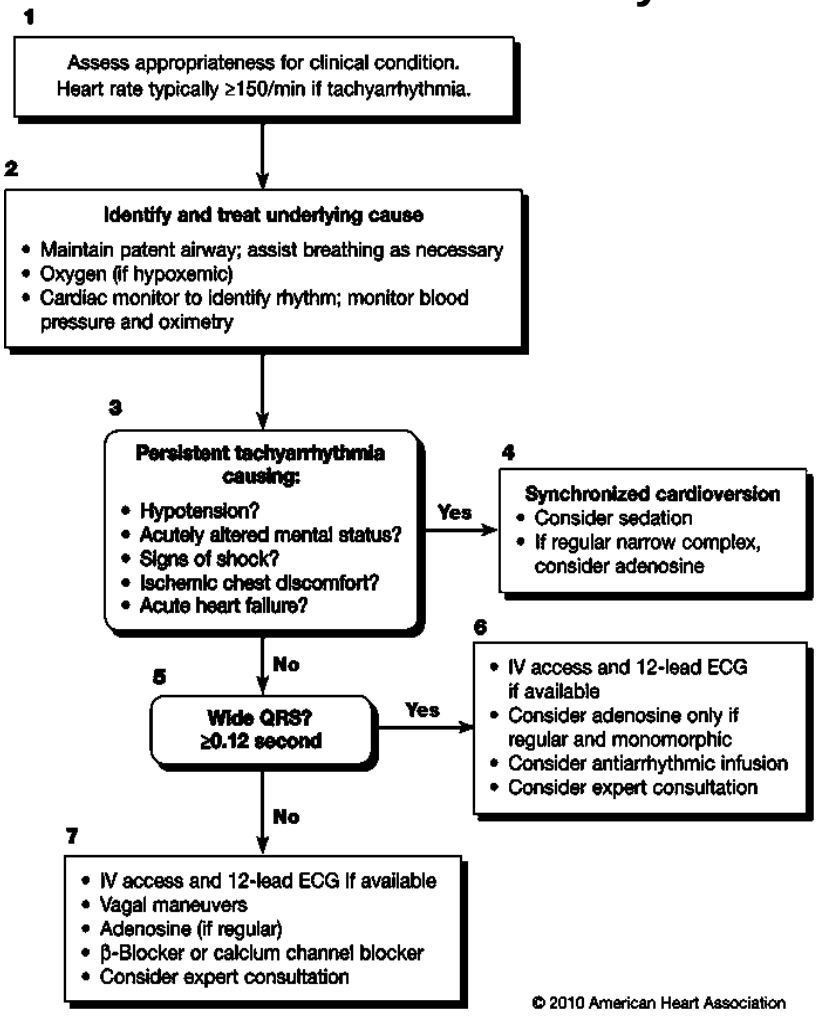
Advanced Airway
- Supraglottic advanced airway or endotracheal intubation
- Waveform capnography to confirm and monitor ET tube placement
- 8-10 breaths per minute with continuous chest compressions

Reversible Causes
- Hypovolemia
- Hypoxia
- Hydrogen ion (acidosis)
- Hypo-/hyperkalemia
- Hypothermia
- Tension pneumothorax
- Tamponade, cardiac
- Toxins
- Thrombosis, pulmonary
- Thrombosis, coronary

American Heart Association Algorithm: Adult Bradycardia



American Heart Association Algorithm: Adult Tachycardia



Doses/Details

Synchronized Cardioversion
Initial recommended doses:
- Narrow regular: 50-100 J
- Narrow irregular: 120-200 J biphasic or 200 J monophasic
- Wide regular: 100 J
- Wide irregular: defibrillation dose (NOT synchronized)

Adenosine IV Dose:
First dose: 6 mg rapid IV push; follow with NS flush.
Second dose: 12 mg if required.

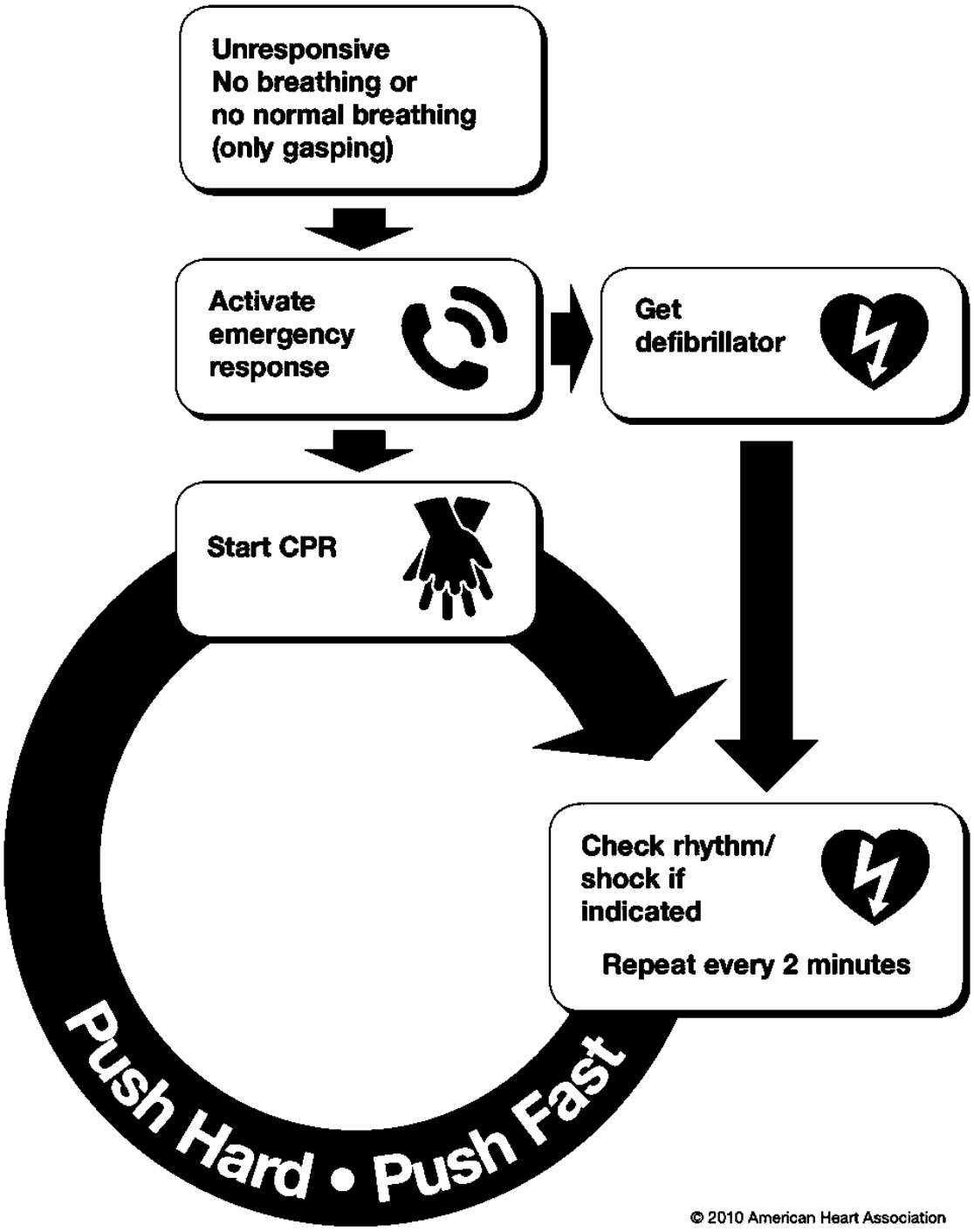
Antiarrhythmic Infusions for Stable Wide-QRS Tachycardia

Procainamide IV Dose:
20-50 mg/min until arrhythmia suppressed, hypotension ensues, QRS duration increases >50%, or maximum dose 17 mg/kg given. Maintenance infusion: 1-4 mg/min. Avoid if prolonged QT or CHF.

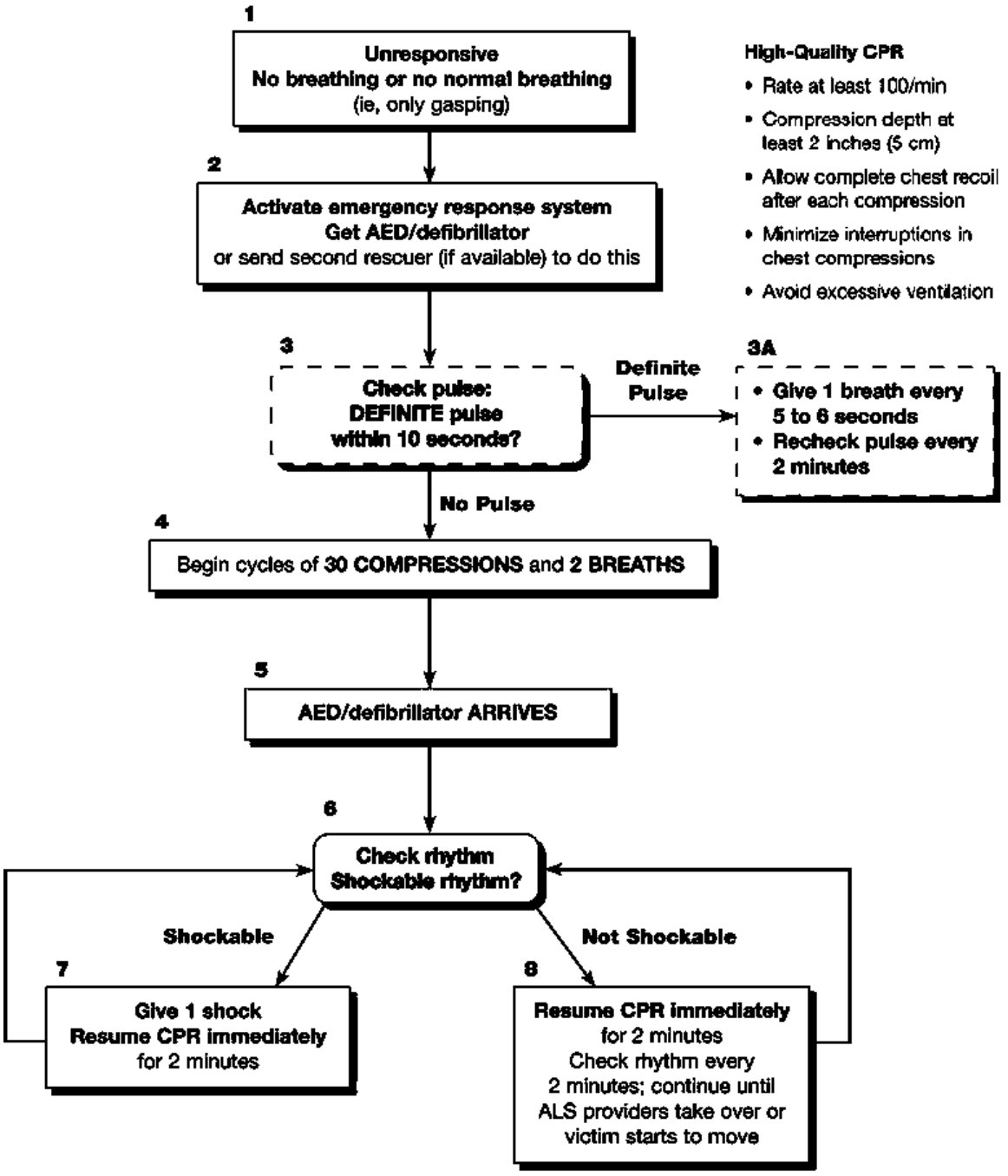
Amiodarone IV Dose:
First dose: 150 mg over 10 minutes. Repeat as needed if VT recurs. Follow by maintenance infusion of 1 mg/min for first 6 hours.

Sotalol IV Dose:
100 mg (1.5 mg/kg) over 5 minutes. Avoid if prolonged QT.

American Heart Association: Simplified BLS Algorithm

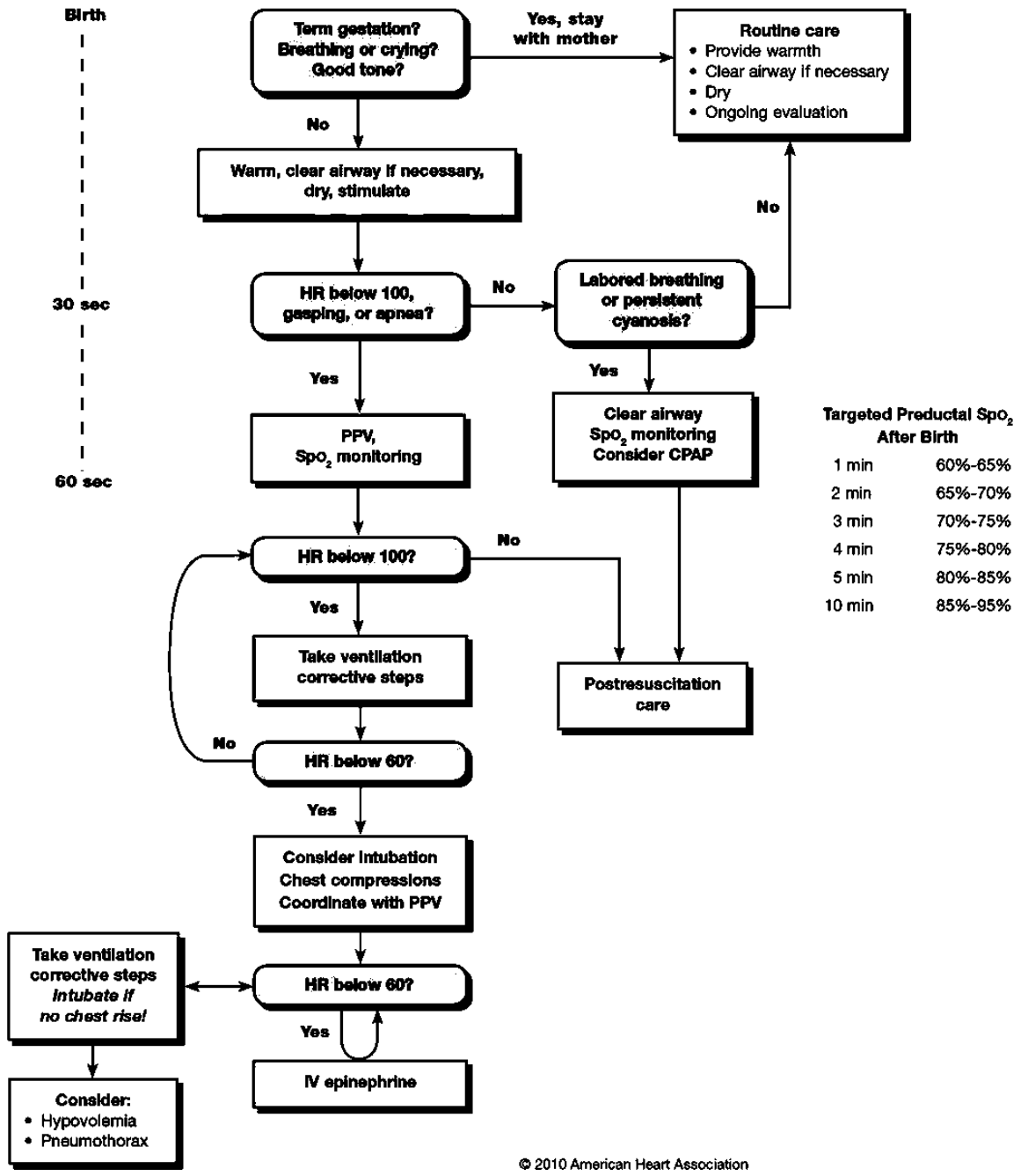


American Heart Association: BLS Healthcare Provider Algorithm



Note: The boxes bordered with dashed lines are performed by healthcare providers and not by lay rescuers

American Heart Association: Neonatal Resuscitation



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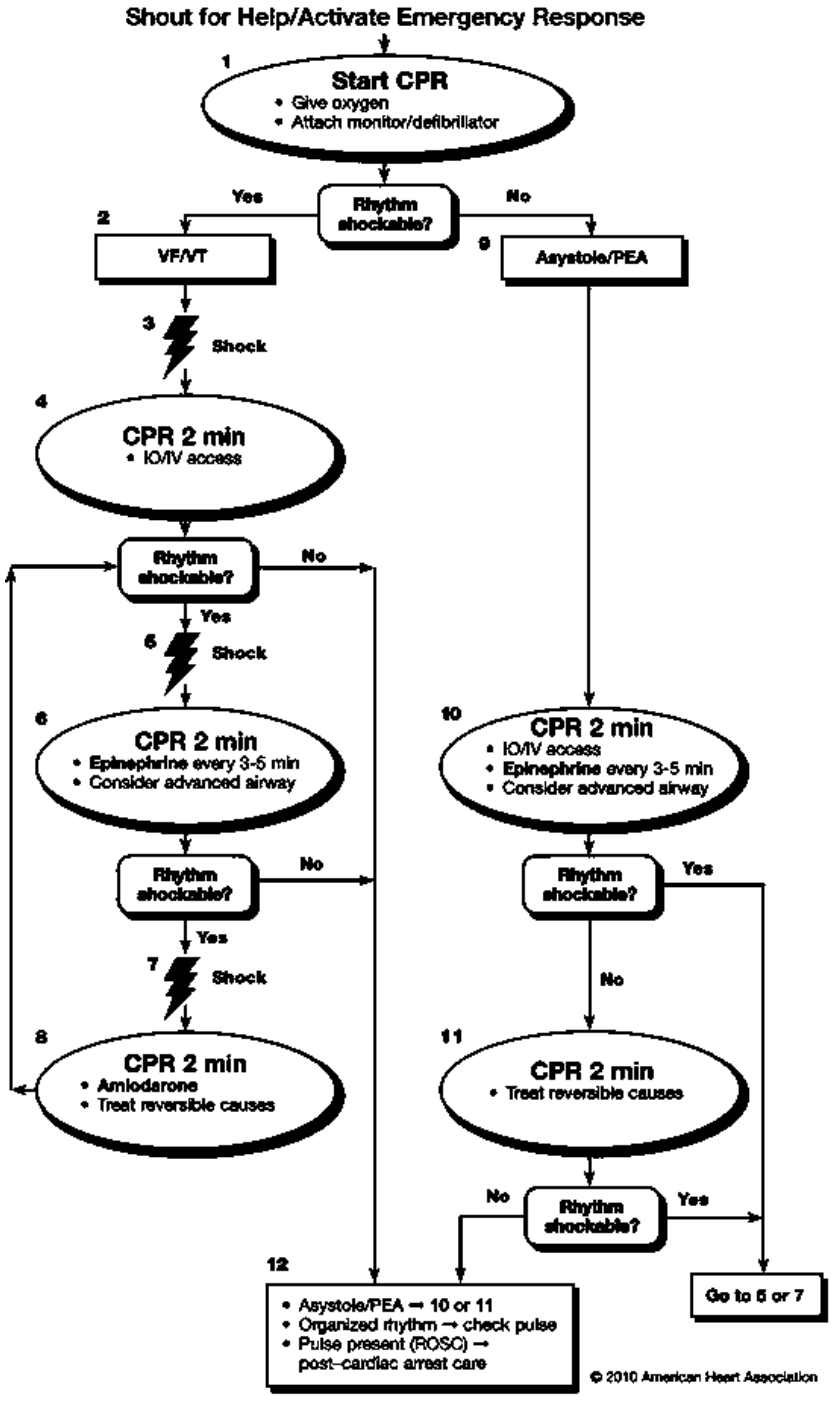
	Jill Mabley, MD, Deputy EMS Medical Director:	Jill Mabley, MD, FAAEM
	Effective Date:	January 29, 2013

American Heart Association: PALS Cardiac Arrest Algorithm



Doses/Details

CPR Quality
- Push hard (≥⅓ of anterior-posterior diameter of chest) and fast (at least 100/min) and allow complete chest recoil
- Minimize interruptions in compressions
- Avoid excessive ventilation
- Rotate compressor every 2 minutes
- If no advanced airway, 15:2 compression-ventilation ratio. If advanced airway, 8-10 breaths per minute with continuous chest compressions

Shock Energy for Defibrillation
First shock 2 J/kg, second shock 4 J/kg, subsequent shocks ≥4 J/kg, maximum 10 J/kg or adult dose.

Drug Therapy
- **Epinephrine IO/IV Dose:** 0.01 mg/kg (0.1 mL/kg of 1:10 000 concentration). Repeat every 3-5 minutes. If no IO/IV access, may give endotracheal dose: 0.1 mg/kg (0.1 mL/kg of 1:1000 concentration).
- **Amiodarone IO/IV Dose:** 5 mg/kg bolus during cardiac arrest. May repeat up to 2 times for refractory VF/pulseless VT.

Advanced Airway
- Endotracheal intubation or supraglottic advanced airway
- Waveform capnography or capnometry to confirm and monitor ET tube placement
- Once advanced airway in place give 1 breath every 6-8 seconds (8-10 breaths per minute)

Return of Spontaneous Circulation (ROSC)
- Pulse and blood pressure
- Spontaneous arterial pressure waves with intra-arterial monitoring

Reversible Causes
- Hypovolemia
- Hypoxia
- Hydrogen ion (acidosis)
- Hypoglycemia
- Hypo-/hyperkalemia
- Hypothermia
- Tension pneumothorax
- Tamponade, cardiac
- Toxins
- Thrombosis, pulmonary
- Thrombosis, coronary

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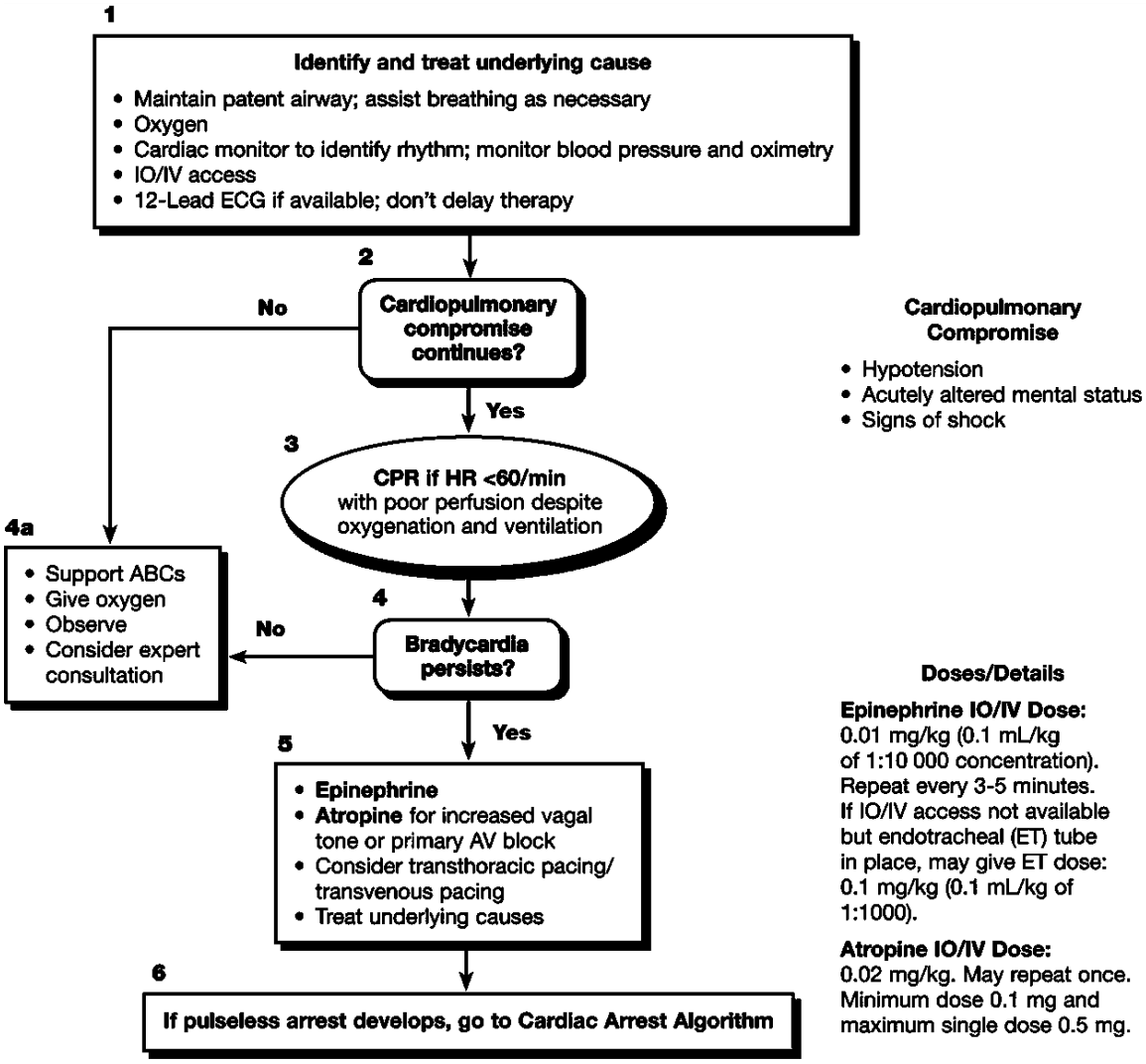
American Heart Association: Pediatric Bradycardia

With a Pulse and Poor Perfusion



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American Heart Association: Pediatric Tachycardia

With a Pulse and Poor Perfusion